

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: February 14, 2005, 15:07:26 ; Search time 139 Seconds

(without alignments)
1532.665 Million cell updates/sec

Title: US-10-614-076-98

Perfect score: 3406

Sequence: 1 MFNNRSEHDTIKVTNPSEL.....SFVSNKXIYDKIEFIPVQL 652

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1376875 seqs, 326749119 residues

Total number of hits satisfying chosen parameters: 1376875

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 150 summaries

Database :

Published Applications AA:*

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Pred. No. is the number of results predicted by chance to have a
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and is derived by analysis of the total score distribution.

SUMMARIES

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ALIGNMENTS

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US-10-232-665-2
; Sequence 2, Application US/10232665
; Publication No. US20030115630A1

RESULT 2

US-10-614-076-98
; Sequence 98, Application US/10614076
; Publication No. US2004003523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.

; GENERAL INFORMATION:

; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent In Ver. 2.0
; SEQ ID NO 2
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Bacillus thuringiensis
US-10-232-665-2

Query Match 100.0%; Score 3406; DB 14; Length 652;

Best Local Similarity 100.0%; Pred. No. 5.1e-262;

Matches 652; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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```
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terssch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 98
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Bacillus thuringiensis
US-10-614-076-98

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Qy      301 TRDIFTDPIFSLNTLQEGYPTFLSIENIRKPHLFDYLOGIEPHTRLPQGYFGKDSFNW 360
Db      |
Qy      361 SGNVETRPSIGSSKTTSPFYGDKSTPEVKLSFDGQKVYRTIANTDVAWPNKGYL 420
Db      |
Qy      361 SGNVETRPSIGSSKTTSPFYGDKSTPEVKLSFDGQKVYRTIANTDVAWPNKGYL 420
Db      |
Qy      421 VTKVDFSQDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPETTDEPLEKAYSHQLNYAE 480
Db      |
Qy      481 CFLMQDRRGITPFTTWRSHVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTG 540
Db      |
Qy      481 CFLMQDRRGITPFTTWRSHVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTG 540
Db      |
Qy      541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRFLVQNSNDFLVIYINKTMNK 600
Db      |
Qy      541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRFLVQNSNDFLVIYINKTMNK 600
Db      |
Qy      601 DDDLTYTQFDLATTNSNMGSGDKNELIIIGAESFVSNEKIYIDKIEFIPVOL 652
Db      |
Qy      601 DDDLTYTQFDLATTNSNMGSGDKNELIIIGAESFVSNEKIYIDKIEFIPVOL 652
Db      |
```

RESULT 3

US-10-614-076-111

; Sequence 111, Application US/10614076

```
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terssch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 111
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-111
```

```
Query Match      100.0%; Score 3406; DB 15; Length 652;
Best Local Similarity 100.0%; Pred. No. 5.1e-262;
Matches 652; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPNTLEELNYKEFLRMWTSSTEVLDNS 60
Db      |
Qy      1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPNTLEELNYKEFLRMWTSSTEVLDNS 60
Db      |
Qy      61 TVKDAVGTGIVSVGQILGVVGVPPFAGALTSPYQSFNTIWPSDADPWKAPMAQVEVLIDK 120
Db      |
Qy      61 TVKDAVGTGIVSVGQILGVVGVPPFAGALTSPYQSFNTIWPSDADPWKAPMAQVEVLIDK 120
Db      |
Qy      121 KIEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRN 180
Db      |
Qy      121 KIEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRN 180
Db      |
Qy      181 SMPFSAVSKPEVLFLPTYAQAANTHLLKDAQVFGGEMGYSSEDAEFVHRLKLTQQY 240
Db      |
Qy      181 SMPFSAVSKPEVLFLPTYAQAANTHLLKDAQVFGGEMGYSSEDAEFVHRLKLTQQY 240
Db      |
Qy      241 TDHCVNMYNGLNGLRGSTYDAWKFNRRFEMTLTVLDLIVLFPFVDIRLYSKGVKTEL 300
Db      |
Qy      241 TDHCVNMYNGLNGLRGSTYDAWKFNRRFEMTLTVLDLIVLFPFVDIRLYSKGVKTEL 300
Db      |
Qy      301 TRDIFTDPIFSLNTLQEGYPTFLSIENIRKPHLFDYLOGIEPHTRLPQGYFGKDSFNW 360
Db      |
Qy      301 TRDIFTDPIFSLNTLQEGYPTFLSIENIRKPHLFDYLOGIEPHTRLPQGYFGKDSFNW 360
Db      |
Qy      361 SGNVETRPSIGSSKTTSPFYGDKSTPEVKLSFDGQKVYRTIANTDVAWPNKGYL 420
Db      |
Qy      361 SGNVETRPSIGSSKTTSPFYGDKSTPEVKLSFDGQKVYRTIANTDVAWPNKGYL 420
Db      |
Qy      421 VTKVDFSQDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPETTDEPLEKAYSHQLNYAE 480
Db      |
Qy      421 VTKVDFSQDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPETTDEPLEKAYSHQLNYAE 480
Db      |
Qy      481 CFLMQDRRGITPFTTWRSHVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTG 540
Db      |
Qy      481 CFLMQDRRGITPFTTWRSHVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTG 540
Db      |
Qy      541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRFLVQNSNDFLVIYINKTMNK 600
Db      |
Qy      541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRFLVQNSNDFLVIYINKTMNK 600
Db      |
Qy      601 DDDLTYTQFDLATTNSNMGSGDKNELIIIGAESFVSNEKIYIDKIEFIPVOL 652
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Db 601 DDDLTQTDFDLATNSNMGFGSGDKNELIIGAESFVSNKEIYIDKIEFIPVOL 652
|||||

RESULT 4
US-10-782-141-11
; Sequence 11, Application US/10782141
; Publication No. US20040197917A1
; GENERAL INFORMATION:
; APPLICANT: Carozzi, Nadine
; APPLICANT: Hargies, Tracy
; APPLICANT: Koziel, Michael G.
; APPLICANT: Duck, Nicholas B.
; APPLICANT: Carr, Brian
; TITLE OF INVENTION: AXMT-014, A Delta-Endotoxin Gene and
; TITLE OF INVENTION: Methods for its use
; FILE REFERENCE: 045600/274143
; CURRENT APPLICATION NUMBER: US/10/782,141
; CURRENT FILING DATE: 2004-02-20
; PRIOR APPLICATION NUMBER: 60/448,632
; PRIOR FILING DATE: 2003-02-20
; NUMBER OF SEQ ID NOS: 23
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 11
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Bacillus thuringiensis
US-10-782-141-11

Query Match 100.0%; Score 3406; DB 16; Length 652;
Best Local Similarity 100.0%; Pred. No. 5.1e-262;
Matches 652; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 MNPNNRSEHDTIKVTPNSELOTNNHNOYPLADPNSTLEELNYKEFLRMTEDSSTEVLNLS 60
DB 1 MNPNNRSEHDTIKVTPNSELOTNNHNOYPLADPNSTLEELNYKEFLRMTEDSSTEVLNLS 60
QY 61 TVKDAGVTGIVSVGGQILGVGVPPFAGALTSTFQSQFLNTIWPSDADPWKAFMAQVEVLIDK 120
DB 61 TVKDAGVTGIVSVGGQILGVGVPPFAGALTSTFQSQFLNTIWPSDADPWKAFMAQVEVLIDK 120
QY 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHPRN 180
DB 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHPRN 180
QY 181 SMPFAVSKFEVLFLPTYAQAANTHLLILLKDAQVGEWGYSSDVAEFYHRQLKLTQOY 240
DB 181 SMPFAVSKFEVLFLPTYAQAANTHLLILLKDAQVGEWGYSSDVAEFYHRQLKLTQOY 240
QY 241 TDHCNVNWNVGLNGRSTYDAWVKFNRRREMTLTVLDLIVLPFYDIRLYSKGVKTEL 300
DB 241 TDHCNVNWNVGLNGRSTYDAWVKFNRRREMTLTVLDLIVLPFYDIRLYSKGVKTEL 300
QY 301 TRDIFTDPIFSLNTLQEGYPTFLSIENSIRKPHLFDYLGIEFHTRLQPGYFGKDSFNW 360
DB 301 TRDIFTDPIFSLNTLQEGYPTFLSIENSIRKPHLFDYLGIEFHTRLQPGYFGKDSFNW 360
QY 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNPKVYLG 420
DB 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNPKVYLG 420
QY 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLVYAE 480
DB 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLVYAE 480
QY 481 CFLMDORRGTTIPFFTWTHRSVDFPNTIDAETIQLPVVKAYALSSGASIIIEGFGFTGGNL 540
DB 481 CFLMDORRGTTIPFFTWTHRSVDFPNTIDAETIQLPVVKAYALSSGASIIIEGFGFTGGNL 540
QY 541 LFLKSSNSIAKFKVTLNSAALLQRYVRIRVASTTNLFLVQNSNNDFLVIYINKTMNK 600
DB 541 LFLKSSNSIAKFKVTLNSAALLQRYVRIRVASTTNLFLVQNSNNDFLVIYINKTMNK 600

QY 601 DDDLTQTDFDLATNSNMGFGSGDKNELIIGAESFVSNKEIYIDKIEFIPVOL 652
DB 601 DDDLTQTDFDLATNSNMGFGSGDKNELIIGAESFVSNKEIYIDKIEFIPVOL 652

RESULT 5
US-10-614-076-68
; Sequence 68, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 68
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-68

Query Match 99.9%; Score 3402; DB 15; Length 652;
Best Local Similarity 99.8%; Pred. No. 1.1e-261;
Matches 651; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY 1 MNPNNRSEHDTIKVTPNSELOTNNHNOYPLADPNSTLEELNYKEFLRMTEDSSTEVLNLS 60
DB 1 MNPNNRSEHDTIKVTPNSELOTNNHNOYPLADPNSTLEELNYKEFLRMTEDSSTEVLNLS 60
QY 61 TVKDAGVTGIVSVGGQILGVGVPPFAGALTSTFQSQFLNTIWPSDADPWKAFMAQVEVLIDK 120
DB 61 TVKDAGVTGIVSVGGQILGVGVPPFAGALTSTFQSQFLNTIWPSDADPWKAFMAQVEVLIDK 120
QY 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHPRN 180
DB 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHPRN 180
QY 181 SMPFAVSKFEVLFLPTYAQAANTHLLILLKDAQVGEWGYSSDVAEFYHRQLKLTQOY 240
DB 181 SMPFAVSKFEVLFLPTYAQAANTHLLILLKDAQVGEWGYSSDVAEFYHRQLKLTQOY 240
QY 241 TDHCNVNWNVGLNGRSTYDAWVKFNRRREMTLTVLDLIVLPFYDIRLYSKGVKTEL 300
DB 241 TDHCNVNWNVGLNGRSTYDAWVKFNRRREMTLTVLDLIVLPFYDIRLYSKGVKTEL 300
QY 301 TRDIFTDPIFSLNTLQEGYPTFLSIENSIRKPHLFDYLGIEFHTRLQPGYFGKDSFNW 360
DB 301 TRDIFTDPIFSLNTLQEGYPTFLSIENSIRKPHLFDYLGIEFHTRLQPGYFGKDSFNW 360
QY 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNPKVYLG 420
DB 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNPKVYLG 420
QY 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLVYAE 480
DB 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLVYAE 480
QY 481 CFLMDORRGTTIPFFTWTHRSVDFPNTIDAETIQLPVVKAYALSSGASIIIEGFGFTGGNL 540

Db 481 CFLMDRRGTIPFTTWRSDVFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGNNL 540
Qy 541 LFLKESNSIAKPKVTLSAALLQRYVRIRYASTTNLRFLVQNSNDFLVIYINKTMNK 600
Db 541 LFLKESNSIAKPKVTLSAALLQRYVRIRYASTTNLRFLVQNSNDFLVIYINKTMNK 600
Qy 601 DDDLTYTQTFDLATNSNMGSGDKNELIIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 601 DDDLTYTQTFDLATNSNMGSGDKNELIIIGAESFVSNEKIYIDKIEFIPVOL 652

RESULT 6
US-10-232-665-6
; Sequence 6, Application US/10233665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 6
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: synthetic or
; OTHER INFORMATION: non-naturally occurring amino acid sequence encoded by SEQ ID NO:
; NAME/KEY: PRT
; LOCATION: (1)..(652)
US-10-232-665-6

Query Match 99.9%; Score 3401; DB 14; Length 652;
Best Local Similarity 99.8%; Pred. No. 1.3e-261;
Matches 651; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
Qy 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNTLLEELNYKEFLRMTESSSTEVLNDS 60
Db 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNTLLEELNYKEFLRMTESSSTEVLNDS 60
Qy 61 TVKDAVGTGIVVQIILGVVGVFPAGALTSFYQSFLNTIWPSPADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGIVVQIILGVVGVFPAGALTSFYQSFLNTIWPSPADPWKAFMAQVEVLIDK 120
Qy 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRN 180
Db 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRN 180
Qy 181 SMPSPAVSKPEVLFLPTYAQAANTHLLLLKDAQVFGSEWGYSSDVAEFYHRQLKLTQY 240
Db 181 SMPSPAVSKPEVLFLPTYAQAANTHLLLLKDAQVFGSEWGYSSDVAEFYHRQLKLTQY 240
Qy 241 TDHCVNMYNGLRGSTYDAWKFNRRFMTLVLDLIVLPFPYDRLYSKGVKTEL 300
Db 241 TDHCVNMYNGLRGSTYDAWKFNRRFMTLVLDLIVLPFPYDRLYSKGVKTEL 300
Qy 301 TRDIFTDPIFSLNTLOEYGTFLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
Db 301 TRDIFTDPIFSLNTLOEYGTFLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
Qy 361 SGNYVTRPSIGSKTITSPFYGDKSTPEVQKLSFDGQKYVRTIANTDVAAPNGKYYLG 420
Db 361 SGNYVTRPSIGSKTITSPFYGDKSTPEVQKLSFDGQKYVRTIANTDVAAPNGKYYLG 420
Qy 421 VTKVDSQYDDQKNETSTQYDSKRNGHVSQAQDSIDLPPETTDPELEKAYSHQNYAE 480
Db 421 VTKVDSQYDDQKNETSTQYDSKRNGHVSQAQDSIDLPPETTDPELEKAYSHQNYAE 480

Qy 481 CFLMDRRGTIPFTTWRSDVFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGNNL 540
Db 481 CFLMDRRGTIPFTTWRSDVFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGNNL 540
Qy 541 LFLKESNSIAKPKVTLSAALLQRYVRIRYASTTNLRFLVQNSNDFLVIYINKTMNK 600
Db 541 LFLKESNSIAKPKVTLSAALLQRYVRIRYASTTNLRFLVQNSNDFLVIYINKTMNK 600
Qy 601 DDDLTYTQTFDLATNSNMGSGDKNELIIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 601 DDDLTYTQTFDLATNSNMGSGDKNELIIIGAESFVSNEKIYIDKIEFIPVOL 652

RESULT 7
US-10-614-076-14
; Sequence 14, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas W.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DV0501
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 14
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-14

Query Match 99.9%; Score 3401; DB 15; Length 652;
Best Local Similarity 99.8%; Pred. No. 1.3e-261;
Matches 651; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
Qy 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNTLLEELNYKEFLRMTESSSTEVLNDS 60
Db 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNTLLEELNYKEFLRMTESSSTEVLNDS 60
Qy 61 TVKDAVGTGIVVQIILGVVGVFPAGALTSFYQSFLNTIWPSPADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGIVVQIILGVVGVFPAGALTSFYQSFLNTIWPSPADPWKAFMAQVEVLIDK 120
Qy 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRN 180
Db 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRN 180
Qy 181 SMPSPAVSKPEVLFLPTYAQAANTHLLLLKDAQVFGSEWGYSSDVAEFYHRQLKLTQY 240
Db 181 SMPSPAVSKPEVLFLPTYAQAANTHLLLLKDAQVFGSEWGYSSDVAEFYHRQLKLTQY 240
Qy 241 TDHCVNMYNGLRGSTYDAWKFNRRFMTLVLDLIVLPFPYDRLYSKGVKTEL 300
Db 241 TDHCVNMYNGLRGSTYDAWKFNRRFMTLVLDLIVLPFPYDRLYSKGVKTEL 300
Qy 301 TRDIFTDPIFSLNTLOEYGTFLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
Db 301 TRDIFTDPIFSLNTLOEYGTFLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360


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Db 121 KIEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHFRN 180
Qy 181 SMPSEFAVSKFEVLFLPTIAQAANTHLLLLKDAQVFGSEWGYSSSDVAEFYHRQLKLTQOY 240
Db 181 SMPSEFAVSKFEVLFLPTIAQAANTHLLLLKDAQVFGSEWGYSSSDVAEFYHRQLKLTQOY 240
Qy 241 TDHCVMYNYVGLNGLRGSTDYDAWKFNRFREMTLTVDLILVLPFPFYDIRLYSGVKTEL 300
Db 241 TDHCVMYNYVGLNGLRGSTDYDAWKFNRFREMTLTVDLILVLPFPFYDIRLYSGVKTEL 300
Qy 301 TRDIFTDPIFSLNTLOEQYPTFLSIENSIRKPHLFDYLOGIEFHTRLOQYFGKDSFNW 360
Db 301 TRDIFTDPIFSLNTLOEQYPTFLSIENSIRKPHLFDYLOGIEFHTRLOQYFGKDSFNW 360
Qy 361 SGNVETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
Db 361 SGNVETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
Qy 421 VTKVDFSQYDDQKNETSTQYDSKRNGHVSQAQDSIDQLPETTDEPLEKAYSHQLNYAE 480
Db 421 VTKVDFSQYDDQKNETSTQYDSKRNGHVSQAQDSIDQLPETTDEPLEKAYSHQLNYAE 480
Qy 481 CFLMQDRRGITPFTTWRHSVDFNTDAEKITQLPVKAYALSSGASIIIEGPGFTGNNL 540
Db 481 CFLMQDRRGITPFTTWRHSVDFNTDAEKITQLPVKAYALSSGASIIIEGPGFTGNNL 540
Qy 541 LFLKESNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNDFLVIYINKTMNK 600
Db 541 LFLKESNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNDFLVIYINKTMNK 600
Qy 601 DDDLTYOTFDLATNNSMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 601 DDDLTYOTFDLATNNSMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652

RESULT 10
US-10-614-076-44
; Sequence 44, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terssch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218-1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: Patentin version 3.2
; SEQ ID NO 44
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-44

Query Match 99.8%; Score 3399; DB 15; Length 652;
Best Local Similarity 99.8%; Pred. No. 1.8e-261;
Matches 651; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNPNNRSEHDTIKVTNPSELQTHNQYPLADNPNSTLEELNYKEFLRMTEDSDSTEVLDS 60
Db 1 MNPNNRSEHDTIKVTNPSELQTHNQYPLADNPNSTLEELNYKEFLRMTEDSDSTEVLDS 60
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Qy 61 TVKDAVGTGISVVGQILGVVGPAGALTSTFYQSFLNTIWPSSDADPKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGISVVGQILGVVGPAGALTSTFYQSFLNTIWPSSDADPKAFMAQVEVLIDK 120
Qy 121 KIEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHFRN 180
Db 121 KIEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHFRN 180
Qy 181 SMPSEFAVSKFEVLFLPTIAQAANTHLLLLKDAQVFGSEWGYSSSDVAEFYHRQLKLTQOY 240
Db 181 SMPSEFAVSKFEVLFLPTIAQAANTHLLLLKDAQVFGSEWGYSSSDVAEFYHRQLKLTQOY 240
Qy 241 TDHCVMYNYVGLNGLRGSTDYDAWKFNRFREMTLTVDLILVLPFPFYDIRLYSGVKTEL 300
Db 241 TDHCVMYNYVGLNGLRGSTDYDAWKFNRFREMTLTVDLILVLPFPFYDIRLYSGVKTEL 300
Qy 301 TRDIFTDPIFSLNTLOEQYPTFLSIENSIRKPHLFDYLOGIEFHTRLOQYFGKDSFNW 360
Db 301 TRDIFTDPIFSLNTLOEQYPTFLSIENSIRKPHLFDYLOGIEFHTRLOQYFGKDSFNW 360
Qy 361 SGNVETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
Db 361 SGNVETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
Qy 421 VTKVDFSQYDDQKNETSTQYDSKRNGHVSQAQDSIDQLPETTDEPLEKAYSHQLNYAE 480
Db 421 VTKVDFSQYDDQKNETSTQYDSKRNGHVSQAQDSIDQLPETTDEPLEKAYSHQLNYAE 480
Qy 481 CFLMQDRRGITPFTTWRHSVDFNTDAEKITQLPVKAYALSSGASIIIEGPGFTGNNL 540
Db 481 CFLMQDRRGITPFTTWRHSVDFNTDAEKITQLPVKAYALSSGASIIIEGPGFTGNNL 540
Qy 541 LFLKESNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNDFLVIYINKTMNK 600
Db 541 LFLKESNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNDFLVIYINKTMNK 600
Qy 601 DDDLTYOTFDLATNNSMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 601 DDDLTYOTFDLATNNSMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
```

RESULT 11

US-10-614-076-54

; Sequence 54, Application US/10614076

; Publication No. US20040033523A1

; GENERAL INFORMATION:

; APPLICANT: English, Leigh H.

; APPLICANT: Brussock, Susan M.

; APPLICANT: Malvar, Thomas M.

; APPLICANT: Bryson, James W.

; APPLICANT: Kulesza, Caroline A.

; APPLICANT: Walters, Frederick S.

; APPLICANT: Slatin, Stephen L.

; APPLICANT: Von Terssch, Michael A.

; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS

; FILE REFERENCE: MECO:218-1 11792.0218.DVUS01

; CURRENT APPLICATION NUMBER: US/10/614,076

; CURRENT FILING DATE: 2003-07-03

; PRIOR FILING DATE: 1999-10-27

; PRIOR APPLICATION NUMBER: 08/993,722

; PRIOR FILING DATE: 1997-12-18

; NUMBER OF SEQ ID NOS: 113

; SOFTWARE: Patentin version 3.2

; SEQ ID NO 54

; LENGTH: 652

; TYPE: PRT

; ORGANISM: Artificial sequence

; FEATURE:

; OTHER INFORMATION: Recombinant delta endotoxin

US-10-614-076-54

Query Match 99.8%; Score 3399; DB 15; Length 652;
Best Local Similarity 99.8%; Pred. No. 1.8e-261;
Matches 651; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTESSSTEVLNDS 60
DB 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTESSSTEVLNDS 60

QY 61 TVKDAVGTGIVSGQILGVGVPPFAGALTSTFQSQFLNTIWPSDADPKAFMAQVEVLIDK 120
DB 61 TVKDAVGTGIVSGQILGVGVPPFAGALTSTFQSQFLNTIWPSDADPKAFMAQVEVLIDK 120

QY 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRIELFSQAESHFRN 180
DB 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRIELFSQAESHFRN 180

QY 181 SMPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQOY 240
DB 181 SMPFAVSGFEVLFLPTYAQAANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQOY 240

QY 241 TDHCNVNNGVGLRGSTYDAWKFNFRREMTLTVDLIVLPFFYDIRLYSGVKTEL 300
DB 241 TDHCNVNNGVGLRGSTYDAWKFNFRREMTLTVDLIVLPFFYDIRLYSGVKTEL 300

QY 301 TRDIFTDPIFSLNTLOEQYPTFLSIENSIRKPHLFDYLQGLIEFHTRLOPGYFGKDSFNYW 360
DB 301 TRDIFTDPIFSLNTLOEQYPTFLSIENSIRKPHLFDYLQGLIEFHTRLOPGYFGKDSFNYW 360

QY 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
DB 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420

QY 421 VTKVDFSYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHOLNVAE 480
DB 421 VTKVDFSYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHOLNVAE 480

QY 481 CFLMDRRGTIPFFTWTHRSVDFNTIDAEXITQLPVVKAYALSSGASIIIEGPGFTGGNL 540
DB 481 CFLMDRRGTIPFFTWTHRSVDFNTIDAEXITQLPVVKAYALSSGASIIIEGPGFTGGNL 540

QY 541 LFLKSSNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNDFLVIYINKTNWK 600
DB 541 LFLKSSNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNDFLVIYINKTNWK 600

QY 601 DDDLTQYTFDLATTSNMGFSGDKNELIIGAESFVSNKEIYIDKIEFIPVQL 652
DB 601 DDDLTQYTFDLATTSNMGFSGDKNELIIGAESFVSNKEIYIDKIEFIPVQL 652

RESULT 12

US-10-614-076-8
; Sequence 8, Application US/10614076
; Publication No. US2004003523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas W.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 8

LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-8

Query Match 99.8%; Score 3398; DB 15; Length 652;

Best Local Similarity 99.8%; Pred. No. 2.2e-261;
Matches 651; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTESSSTEVLNDS 60
DB 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTESSSTEVLNDS 60

QY 61 TVKDAVGTGIVSGQILGVGVPPFAGALTSTFQSQFLNTIWPSDADPKAFMAQVEVLIDK 120
DB 61 TVKDAVGTGIVSGQILGVGVPPFAGALTSTFQSQFLNTIWPSDADPKAFMAQVEVLIDK 120

QY 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRIELFSQAESHFRN 180
DB 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRIELFSQAESHFRN 180

QY 181 SMPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQOY 240
DB 181 SMPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQOY 240

QY 241 TDHCNVNNGVGLRGSTYDAWKFNFRREMTLTVDLIVLPFFYDIRLYSGVKTEL 300
DB 241 TDHCNVNNGVGLRGSTYDAWKFNFRREMTLTVDLIVLPFFYDIRLYSGVKTEL 300

QY 301 TRDIFTDPIFSLNTLOEQYPTFLSIENSIRKPHLFDYLQGLIEFHTRLOPGYFGKDSFNYW 360
DB 301 TRDIFTDPIFSLNTLOEQYPTFLSIENSIRKPHLFDYLQGLIEFHTRLOPGYFGKDSFNYW 360

QY 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
DB 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420

QY 421 VTKVDFSYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHOLNVAE 480
DB 421 VTKVDFSYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHOLNVAE 480

QY 481 CFLMDRRGTIPFFTWTHRSVDFNTIDAEXITQLPVVKAYALSSGASIIIEGPGFTGGNL 540
DB 481 CFLMDRRGTIPFFTWTHRSVDFNTIDAEXITQLPVVKAYALSSGASIIIEGPGFTGGNL 540

QY 541 LFLKSSNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNDFLVIYINKTNWK 600
DB 541 LFLKSSNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNDFLVIYINKTNWK 600

QY 601 DDDLTQYTFDLATTSNMGFSGDKNELIIGAESFVSNKEIYIDKIEFIPVQL 652
DB 601 DDDLTQYTFDLATTSNMGFSGDKNELIIGAESFVSNKEIYIDKIEFIPVQL 652

RESULT 13

US-10-614-076-26
; Sequence 26, Application US/10614076
; Publication No. US2004003523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas W.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03


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; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: Patentin version 3.2
; SEQ ID NO 26
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
; US-10-614-076-26

Query Match          99.8%; Score 3398; DB 15; Length 652;
Best Local Similarity 99.7%; Pred. No. 2.2e-261;
Matches 650; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNPNNRSEHDTIKVTPNSELQTNHNOYPLADNPNSTLEELNYKEFLRMTESSSTEVLNDS 60
Db 1 MNPNNRSEHDTIKVTPNSELQTNHNOYPLADNPNSTLEELNYKEFLRMTESSSTEVLNDS 60

Qy 61 TVKDAVGTGIVVQILGVGVVPFAGALTSFYQSFLNTIWPSSDADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGIVVQILGVGVVPFAGALTSFYQSFLNTIWPSSDADPWKAFMAQVEVLIDK 120

Qy 121 KIEYAKSKALAELOQLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRN 180
Db 121 KIEYAKSKALAELOQLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRN 180

Qy 181 SMPFSAVSKAEVLFLPTYAQAANTHLLKDAQVFGEEWGYSSSEDVAEFYHRQLKLTQOY 240
Db 181 SMPFSAVSKAEVLFLPTYAQAANTHLLKDAQVFGEEWGYSSSEDVAEFYHRQLKLTQOY 240

Qy 241 TDHCVNMYNVLNGLRGSTYDAWVKFNFRREMTLVLDLIVLPFPFYDIRLYSGVKTEL 300
Db 241 TDHCVNMYNVLNGLRGSTYDAWVKFNFRREMTLVLDLIVLPFPFYDIRLYSGVKTEL 300

Qy 301 TRDIFTDPIFSLNTLOEYGPTELSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
Db 301 TRDIFTDPIFSLNTLOEYGPTELSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360

Qy 361 SGNYVETRPSIGSSKTTITSPFYGDKSTPEVKLSFDGQKYVRTIANTDVAAMPNGKYYLG 420
Db 361 SGNYVETRPSIGSSKTTITSPFYGDKSTPEVKLSFDGQKYVRTIANTDVAAMPNGKYYLG 420

Qy 421 VTKVDFSQYDDQKNETSTQYDSKRNGHVSAQDSIDLPPETTDPELEKAYSHQLNYAE 480
Db 421 VTKVDFSQYDDQKNETSTQYDSKRNGHVSAQDSIDLPPETTDPELEKAYSHQLNYAE 480

Qy 481 CFLMQRRGTIPFPTWTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGGNL 540
Db 481 CFLMQRRGTIPFPTWTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGGNL 540

Qy 541 LFLKSSNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
Db 541 LFLKSSNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600

Qy 601 DDDLTYQTFTDLATNSNMGFSGDKNELIIGAESFVSNKEIYIDKIBFIPVOL 652
Db 601 DDDLTYQTFTDLATNSNMGFSGDKNELIIGAESFVSNKEIYIDKIBFIPVOL 652

RESULT 14
US-10-614-076-42
; Sequence 42, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
```

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; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terach, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: Patentin version 3.2
; SEQ ID NO 42
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
; US-10-614-076-42

Query Match          99.8%; Score 3398; DB 15; Length 652;
Best Local Similarity 99.8%; Pred. No. 2.2e-261;
Matches 651; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNPNNRSEHDTIKVTPNSELQTNHNOYPLADNPNSTLEELNYKEFLRMTESSSTEVLNDS 60
Db 1 MNPNNRSEHDTIKVTPNSELQTNHNOYPLADNPNSTLEELNYKEFLRMTESSSTEVLNDS 60

Qy 61 TVKDAVGTGIVVQILGVGVVPFAGALTSFYQSFLNTIWPSSDADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGIVVQILGVGVVPFAGALTSFYQSFLNTIWPSSDADPWKAFMAQVEVLIDK 120

Qy 121 KIEYAKSKALAELOQLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRN 180
Db 121 KIEYAKSKALAELOQLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRN 180

Qy 181 SMPFSAVSKAEVLFLPTYAQAANTHLLKDAQVFGEEWGYSSSEDVAEFYHRQLKLTQOY 240
Db 181 SMPFSAVSKAEVLFLPTYAQAANTHLLKDAQVFGEEWGYSSSEDVAEFYHRQLKLTQOY 240

Qy 241 TDHCVNMYNVLNGLRGSTYDAWVKFNFRREMTLVLDLIVLPFPFYDIRLYSGVKTEL 300
Db 241 TDHCVNMYNVLNGLRGSTYDAWVKFNFRREMTLVLDLIVLPFPFYDIRLYSGVKTEL 300

Qy 301 TRDIFTDPIFSLNTLOEYGPTELSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
Db 301 TRDIFTDPIFSLNTLOEYGPTELSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360

Qy 361 SGNYVETRPSIGSSKTTITSPFYGDKSTPEVKLSFDGQKYVRTIANTDVAAMPNGKYYLG 420
Db 361 SGNYVETRPSIGSSKTTITSPFYGDKSTPEVKLSFDGQKYVRTIANTDVAAMPNGKYYLG 420

Qy 421 VTKVDFSQYDDQKNETSTQYDSKRNGHVSAQDSIDLPPETTDPELEKAYSHQLNYAE 480
Db 421 VTKVDFSQYDDQKNETSTQYDSKRNGHVSAQDSIDLPPETTDPELEKAYSHQLNYAE 480

Qy 481 CFLMQRRGTIPFPTWTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGGNL 540
Db 481 CFLMQRRGTIPFPTWTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGGNL 540

Qy 541 LFLKSSNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
Db 541 LFLKSSNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600

Qy 601 DDDLTYQTFTDLATNSNMGFSGDKNELIIGAESFVSNKEIYIDKIBFIPVOL 652
Db 601 DDDLTYQTFTDLATNSNMGFSGDKNELIIGAESFVSNKEIYIDKIBFIPVOL 652

RESULT 15
US-10-614-076-12
; Sequence 12, Application US/10614076
```

Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terssch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614.076
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 12
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-12

Query Match 99.7%; Score 3396; DB 15; Length 652;
Best Local Similarity 99.8%; Pred. No. 3.2e-261;
Matches 651; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPSTLEELNYKEFLRMTEDSSTEVLDNS 60
DB 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPSTLEELNYKEFLRMTEDSSTEVLDNS 60

QY 61 TVKDAVGTGIVGVGQILGVVPPFAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
DB 61 TVKDAVGTGIVGVGQILGVVPPFAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120

QY 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLEFSAQSHFRN 180
DB 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLEFSAQSHFRN 180

QY 181 SMPFAVSKFEVLFLPTYAAQANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQY 240
DB 181 SMPFAVSKFEVLFLPTYAAQANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQY 240

QY 241 TDHCNVNWNVGLNGRGSTYDAWKFNRRRREMTLTVLDLIVLFFPYDIRLYSKGVKTEL 300
DB 241 TDHCNVNWNVGLNGRGSTYDAWKFNRRRREMTLTVLDLIVLFFPYDIRLYSKGVKTEL 300

QY 301 TRDIFTDPFISLNTLQEGPTFLSIENSRKPHLFDYLGQIEFHTRLQPGYFGKDSFNYW 360
DB 301 TRDIFTDPFISLNTLQEGPTFLSIENSRKPHLFDYLGQIEFHTRLQPGYFGKDSFNYW 360

QY 361 SGNVYETRESIGSSKTIITSPFYGDKSTEPVKLSFDGQKVYRTIANTDVAAMPNGKVYLG 420
DB 361 SGNVYETRESIGSSKTIITSPFYGDKSTEPVKLSFDGQKVYRTIANTDVAAMPNGKVYLG 420

QY 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLVNAE 480
DB 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLVNAE 480

QY 481 CFMQRDRGTIPFFTWTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGTGNL 540
DB 481 CFMQRDRGTIPFFTWTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGTGNL 540

QY 541 LFLKSSNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDPLVIYINKTNK 600
DB 541 LFLKSSNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDPLVIYINKTNK 600

QY 601 DDDLTYQTFLATTNSNMGFGSGDKNELIIGAESFVSNKEKIYIDKIEFIPVQL 652

DB 601 DDDLTYQTFLATTNSNMGFGSGDKNELIIGAESFVSNKEKIYIDKIEFIPVQL 652

RESULT 16
US-10-614-076-64
; Sequence 64, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terssch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614.076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 64
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-64

Query Match 99.7%; Score 3396; DB 15; Length 652;
Best Local Similarity 99.5%; Pred. No. 3.2e-261;
Matches 649; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPSTLEELNYKEFLRMTEDSSTEVLDNS 60
DB 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPSTLEELNYKEFLRMTEDSSTEVLDNS 60

QY 61 TVKDAVGTGIVGVGQILGVVPPFAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
DB 61 TVKDAVGTGIVGVGQILGVVPPFAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120

QY 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLEFSAQSHFRN 180
DB 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLEFSAQSHFRN 180

QY 181 SMPFAVSKFEVLFLPTYAAQANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQY 240
DB 181 SMPFAVSKFEVLFLPTYAAQANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQY 240

QY 241 TDHCNVNWNVGLNGRGSTYDAWKFNRRRREMTLTVLDLIVLFFPYDIRLYSKGVKTEL 300
DB 241 TDHCNVNWNVGLNGRGSTYDAWKFNRRRREMTLTVLDLIVLFFPYDIRLYSKGVKTEL 300

QY 301 TRDIFTDPFISLNTLQEGPTFLSIENSRKPHLFDYLGQIEFHTRLQPGYFGKDSFNYW 360
DB 301 TRDIFTDPFISLNTLQEGPTFLSIENSRKPHLFDYLGQIEFHTRLQPGYFGKDSFNYW 360

QY 361 SGNVYETRESIGSSKTIITSPFYGDKSTEPVKLSFDGQKVYRTIANTDVAAMPNGKVYLG 420
DB 361 SGNVYETRESIGSSKTIITSPFYGDKSTEPVKLSFDGQKVYRTIANTDVAAMPNGKVYLG 420

QY 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLVNAE 480
DB 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLVNAE 480

QY 481 CFMQRDRGTIPFFTWTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGTGNL 540

Db 481 CFLMQDRRGTPFTTWTTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGNNL 540
Qy 541 LFLKESNSIAKFKVTLNSAALLQRYVRIRYASTTNLRFLVQNSNDFLVIYINKTMNK 600
Db 541 LFLKESNSIAKFKVTLNSAALLQRYVRIRYASTTNLRFLVQNSNDFLVIYINKTMNK 600
Qy 601 DDDLTYQTFLATTNSNMFGSGDKNELIIIGAESFVSNEKIYIDKIEFIPVQL 652
Db 601 DDDLTYQTFLATTNSNMFGSGDKNELIIIGAESFVSNEKIYIDKIEFIPVQL 652

RESULT 17
US-10-614-076-10
; Sequence 10, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 10
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-10

Query Match 99.7%; Score 3395; DB 15; Length 652;
Best Local Similarity 99.7%; Pred. No. 3.8e-261;
Matches 650; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MNPNNRSEHDTIKVTPNSELQTNHNQYPLADNPNTLLEELNYKEFLRMTEDSDSSTEVLDNS 60
Db 1 MNPNNRSEHDTIKVTPNSELQTNHNQYPLADNPNTLLEELNYKEFLRMTEDSDSSTEVLDNS 60
Qy 61 TVKDAVGTGTSVVGQILGVVGPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGTSVVGQILGVVGPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
Qy 121 KIEEYAKSKALAEQLQNNFEDYVNALNSWKKTPLSLRSKRSDRIRELFSQAESHFRN 180
Db 121 KIEEYAKSKALAEQLQNNFEDYVNALNSWKKTPLSLRSKRSDRIRELFSQAESHFRN 180
Qy 181 SMPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVGEWGYSSSEDVAEFYHROKLTKQY 240
Db 181 SMPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVGEWGYSSSEDVAEFYHROKLTKQY 240
Qy 241 TDHCVNMYNGLNGLRGSTDYAWKFNRRFMTLTVLVDLIVLPPFYDIRLSKGVKTEL 300
Db 241 SDHCVNMYNGLNGLRGSTDYAWKFNRRFMTLTVLVDLIVLPPFYDIRLSKGVKTEL 300
Qy 301 TRDIFTDPIFSLNTLQEGYPTFLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
Db 301 TRDIFTDPIFSLNTLQEGYPTFLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
Qy 361 SGNVETRPISGSKTITSPFYGDKSTPEPVQKLSFDQKQVYRTIANTDVAWPNKGKYL 420
Db 361 SGNVETRPISGSKTITSPFYGDKSTPEPVQKLSFDQKQVYRTIANTDVAWPNKGKYL 420

Qy 421 VTKVDFSOYDQKNETSTQYDSKRNGHVSADSIDQLPETTDEPLEKAYSHQNVAE 480
Db 421 VTKVDFSOYDQKNETSTQYDSKRNGHVSADSIDQLPETTDEPLEKAYSHQNVAE 480
Qy 481 CFLMQDRRGTPFTTWTTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGNNL 540
Db 481 CFLMQDRRGTPFTTWTTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGNNL 540
Qy 541 LFLKESNSIAKFKVTLNSAALLQRYVRIRYASTTNLRFLVQNSNDFLVIYINKTMNK 600
Db 541 LFLKESNSIAKFKVTLNSAALLQRYVRIRYASTTNLRFLVQNSNDFLVIYINKTMNK 600
Qy 601 DDDLTYQTFLATTNSNMFGSGDKNELIIIGAESFVSNEKIYIDKIEFIPVQL 652
Db 601 DDDLTYQTFLATTNSNMFGSGDKNELIIIGAESFVSNEKIYIDKIEFIPVQL 652

RESULT 18
US-10-614-076-34
; Sequence 34, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 34
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-34

Query Match 99.7%; Score 3395; DB 15; Length 652;
Best Local Similarity 99.7%; Pred. No. 3.8e-261;
Matches 650; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNPNNRSEHDTIKVTPNSELQTNHNQYPLADNPNTLLEELNYKEFLRMTEDSDSSTEVLDNS 60
Db 1 MNPNNRSEHDTIKVTPNSELQTNHNQYPLADNPNTLLEELNYKEFLRMTEDSDSSTEVLDNS 60
Qy 61 TVKDAVGTGTSVVGQILGVVGPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGTSVVGQILGVVGPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
Qy 121 KIEEYAKSKALAEQLQNNFEDYVNALNSWKKTPLSLRSKRSDRIRELFSQAESHFRN 180
Db 121 KIEEYAKSKALAEQLQNNFEDYVNALNSWKKTPLSLRSKRSDRIRELFSQAESHFRN 180
Qy 181 SMPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVGEWGYSSSEDVAEFYHROKLTKQY 240
Db 181 SMPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVGEWGYSSSEDVAEFYHROKLTKQY 240
Qy 241 TDHCVNMYNGLNGLRGSTDYAWKFNRRFMTLTVLVDLIVLPPFYDIRLSKGVKTEL 300
Db 241 TDHCVNMYNGLNGLRGSTDYAWKFNRRFMTLTVLVDLIVLPPFYDIRLSKGVKTEL 300

301	Qy	TRDIFTDPIFSLNTVIOEQPTFLSIENSIRKPHLFDYLOGIEHTRLRPOQYFGOKDSFNW	360
301	Db	TRDIFTDPIFIILHTIOEQPTFLSIENSIRKPHLFDYLOGIEHTRLRPOQYFGOKDSFNW	360
361	Qy	SGNYVETRPSIGSSKTIITSPFYGDKSTPEPVOKLSFDGOKVVRTIANTDVAWPNKGKYL	420
361	Db	SGNYVETRPSIGSSKTIITSPFYGDKSTPEPVOKLSFDGOKVVRTIANTDVAWPNKGKYL	420
421	Qy	VTKVDFSQVDDOKNETSTQTVDSCRNNGHVSAQDSIDQLPPTDDEPLEKAYSHQLNYAE	480
421	Db	VTKVDFSQVDDOKNETSTQTVDSCRNNGHVSAQDSIDQLPPTDDEPLEKAYSHQLNYAE	480
481	Qy	CFLMQDORRGTIPIFFTWTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGGNL	540
481	Db	CFLMQDORRGTIPIFFTWTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGGNL	540
541	Qy	LFLEKSSNSIIAKPKVTLSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMK	600
541	Db	LFLEKSSNSIIAKPKVTLSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMK	600
601	Qy	DDDLTYQTDLATTNSNMGFGDKNELTIGAESFVSNEKIIYDKIEFIPVOL	652
601	Db	DDDLTYQTDLATTNSNMGFGDKNELTIGAESFVSNEKIIYDKIEFIPVOL	652

```

RESULT 19
US-10-614-076-20
; Sequence 20, Application US/10614076
; Publication No. US2004003523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLLEOPTERAN INSECTS
; FILE REFERENCE: WECO-218--1 11792.0218, DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 20
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-20

```

Query Match	99.6%	Score 3393;	DB 15;	Length 652;
Best Local Similarity	99.5%	Pred. No. 5.5e-261;		
Matches 649;	Conservative 2;	Mismatches 1;	Indels 0;	Gaps 0;
Qy 1	MNPNRSEHDTIKVTPNSELTQHNHNOYPLADNPNSTLEELNYKEFLRMTEDSSSTEVL	DNS 60		
Db 1	MNPNRSEHDTIKVTPNSELTQHNHNOYPLADNPNSTLEELNYKEFLRMTEDSSSTEVL	DNS 60		
Qy 61	TVKDAVGTGISVVGQILGWGVPPAGALTSFYQSFPLNTIWPSDADPKAFMAQVEVLIDK	120		
Db 61	TVKDAVGTGISVVGQILGWGVPPAGALTSFYQSFPLNTIWPSDADPKAFMAQVEVLIDK	120		
Qy 121	KIEEYAKSKALAELOGLQNNPFDVYNALNSWKKTPLSLRKRSDQRRELFSQAESHFRN	180		
Db 121	KIEEYAKSKALAELOGLQNNPFDVYNALNSWKKTPLSLRKRSDQRRELFSQAESHFRN	180		
Qy 181	SMPSFAVSKFEVILPLPYAOAANTHLLLLKDAOVFGGEWGYSSSDVAEFVYHROLKLTQOY	240		

[illegible]

```

RESULT 20
US-10-614-076-66
; Sequence 66, Application US/10614076
; Publication No. US2004003523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MSCO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 66
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-66

```

	Query Match	99.6%	Score 3393	DB 15	Length 652	
	Best Local Similarity	99.7%	Pred. No. 5.5e-261			
	Matches 650	Conservative 0	Mismatches 2	Indels 0	Gaps 0	
Qy	1	MNPNNRSEHDTIKVTPNSELOTNNQVPLADNPNSTLEELNKKFRLMTEDSSTVEVLNDS	60			
Db	1	MNPNNRSEHDTIKVTPNSELOTNNQVPLADNPNSTLEELNKKFRLMTEDSSTVEVLNDS	60			
Qy	61	TVKDAVGTGISVVGQIIGVGVGPAGALTSFYQSFLNTWPSADDPKFAWQAEVLIDK	120			

```
Db 61 TVKDAVGTGIVSVVQILGVGVFPFAGALTSFYQSFLNTIWPSSDADPWKAFMAQVEVLIDK 120
Qy 121 KIEEYAKSALAELOGLQNNFEDYVNALNSWKKTPLSLRKRSDRIRLFSQAESHFRN 180
Db 121 KIEEYAKSALAELOGLQNNFEDYVNALNSWKKTPLSLRKRSDRIRLFSQAESHFRN 180
Qy 181 SMPFAVSKEVFLPFTYQAQANTHLLLLKDAQVFGSEWGYSEDVAEFYHRLKLTQQY 240
Db 181 SMPFAVSKEVFLPFTYQAQANTHLLLLKDAQVFGSEWGYSEDVAEFYHRLKLTQQY 240
Qy 241 TDHCVMNMYNGLRGSTYDAWVKFNRFREMTLTVLDLIVLFPFVDIRLYSKGVKTEL 300
Db 241 TDHCVMNMYNGLRGSTYDAWVKFNRFREMTLTVLDLIVLFPFVDIRLYSKGVKTEL 300
Qy 301 TRDIFTDPIFSLNTLOEYGTFTLSIENSRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
Db 301 TRDIFTDPIFSLNTLOEYGTFTLSIENSRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
Qy 361 SGNVETRPSIGSKTITSPFYGDKSTEPVKLSFDGQKVYRTIANTDVAAMPNGKVYLG 420
Db 361 SGNVETRPSIGSKTITSPFYGDKSTEPVKLSFDGQKVYRTIANTDVAAMPNGKVYLG 420
Qy 421 VTKVDFSQYDDQKNETSTQYDSKRNNGHVSAQDSIDQLPETTDEPLEKAYSHQLNYAE 480
Db 421 VTKVDFSQYDDQKNETSTQYDSKRNNGHVSAQDSIDQLPETTDEPLEKAYSHQLNYAE 480
Qy 481 CFLMQDRRGITPFTTWTTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGFGTGGNL 540
Db 481 CFLMQDRRGITPFTTWTTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGFGTGGNL 540
Qy 541 LFLKESNSIAKPKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
Db 541 LFLKESNSIAKPKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
Qy 601 DDDLTYQTFDLATNSNMFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 601 DDDLTYQTFDLATNSNMFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652

RESULT 21
US-10-614-076-6
; Sequence 6, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terssch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218-1 11792.0218.DVUS01
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: Patentin version 3.2
; SEQ ID NO 6
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-6

Query Match 99.6%; Score 3392; DB 15; Length 652;
Best Local Similarity 99.7%; Pred. No. 6.7e-261;
Matches 650; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
Qy 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNTLEELNYKEFLRMTEDSSSTEVLDNS 60
Db 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNTLEELNYKEFLRMTEDSSSTEVLDNS 60
Qy 61 TVKDAVGTGIVSVVQILGVGVFPFAGALTSFYQSFLNTIWPSSDADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGIVSVVQILGVGVFPFAGALTSFYQSFLNTIWPSSDADPWKAFMAQVEVLIDK 120
Qy 121 KIEEYAKSALAELOGLQNNFEDYVNALNSWKKTPLSLRKRSDRIRLFSQAESHFRN 180
Db 121 KIEEYAKSALAELOGLQNNFEDYVNALNSWKKTPLSLRKRSDRIRLFSQAESHFRN 180
Qy 181 SMPFAVSKEVFLPFTYQAQANTHLLLLKDAQVFGSEWGYSEDVAEFYHRLKLTQQY 240
Db 181 SMPFAVSKEVFLPFTYQAQANTHLLLLKDAQVFGSEWGYSEDVAEFYHRLKLTQQY 240
Qy 241 TDHCVMNMYNGLRGSTYDAWVKFNRFREMTLTVLDLIVLFPFVDIRLYSKGVKTEL 300
Db 241 TDHCVMNMYNGLRGSTYDAWVKFNRFREMTLTVLDLIVLFPFVDIRLYSKGVKTEL 300
Qy 301 TRDIFTDPIFSLNTLOEYGTFTLSIENSRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
Db 301 TRDIFTDPIFSLNTLOEYGTFTLSIENSRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
Qy 361 SGNVETRPSIGSKTITSPFYGDKSTEPVKLSFDGQKVYRTIANTDVAAMPNGKVYLG 420
Db 361 SGNVETRPSIGSKTITSPFYGDKSTEPVKLSFDGQKVYRTIANTDVAAMPNGKVYLG 420
Qy 421 VTKVDFSQYDDQKNETSTQYDSKRNNGHVSAQDSIDQLPETTDEPLEKAYSHQLNYAE 480
Db 421 VTKVDFSQYDDQKNETSTQYDSKRNNGHVSAQDSIDQLPETTDEPLEKAYSHQLNYAE 480
Qy 481 CFLMQDRRGITPFTTWTTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGFGTGGNL 540
Db 481 CFLMQDRRGITPFTTWTTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGFGTGGNL 540
Qy 541 LFLKESNSIAKPKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
Db 541 LFLKESNSIAKPKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
Qy 601 DDDLTYQTFDLATNSNMFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 601 DDDLTYQTFDLATNSNMFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652

RESULT 22
US-10-614-076-30
; Sequence 30, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terssch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218-1 11792.0218.DVUS01
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: Patentin version 3.2
; SEQ ID NO 30
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
```


; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLLEOPTERAN INSECTS
; FILE REFERENCE: MECO.218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614.076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: Patent in version 3.2
; SEQ ID NO 16
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-16

Query Match 99.5%; Score 3390; DB 15; Length 652;
Best Local Similarity 99.5%; Pred. No. 9.6e-261;
Matches 649; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy	1	MNPNNRSEHDTIKVTPNSELQTNHNOYPLADNPNSTLEELNYKEFLRMTESSSTEVLNDS	60
Db	1	MNPNNRSEHDTIKVTPNSELQTNHNOYPLADNPNSTLEELNYKEFLRMTESSSTEVLNDS	60
Qy	61	TVKDAVGTGISVVGQILGVGVPPAGALTSFYOSFLNTIWPSDADPWKAFMAQVEVLIDK	120
Db	61	TVKDAVGTGISVVGQILGVGVPPAGALTSFYOSFLNTIWPSDADPWKAFMAQVEVLIDK	120
Qy	121	KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRN	180
Db	121	KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRN	180
Qy	181	SMPSFAVSKFEVLFLPTYAQAANTHLLKDAQVFGEEGYSSSEDVAEFYHRQLKLTQOY	240
Db	181	SMPSFAVSKFEVLFLPTYAQAANTHLLKDAQVFGEEGYSSSEDVAEFYHRQLKLTQOY	240
Qy	241	TDHCVMNWNVGLNGLRGSTYDAWKFNRRPREMTLTVDLILVLPFFYDIRLYSKGVKTEL	300
Db	241	TDHCVMNWNVGLNGLRGSTYDAWKFNRRPREMTLTVDLILVLPFFYDIRLYSKGVKTEL	300
Qy	301	TRDIFTDPIFLNTLQEGYPTFLSIENSIRKPHLFDYLOQIEFHTRLQPGYFGKDSFNW	360
Db	301	TRDIFTDPIFLNTLQEGYPTFLSIENSIRKPHLFDYLOQIEFHTRLQPGYFGKDSFNW	360
Qy	361	SGNYVETRPSIGSSKITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAMPNGKVYLG	420
Db	361	SGNYVETRPSIGSSKITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAMPNGKVYLG	420
Qy	421	VTKVDFSQYDDQKNETSTQYDSKRNGHVSQAQDSIDQLPETTDREPLEKAYSHQNLNAYE	480
Db	421	VTKVDFSQYDDQKNETSTQYDSKRNGHVSQAQDSIDQLPETTDREPLEKAYSHQNLNAYE	480
Qy	481	CFLMQDRRGITPFTTWTTHRSVDFNTIDAEKIQTPPVKAYALSSGASIIIEGPGFTGGNL	540
Db	481	CFLMQDRRGITPFTTWTTHRSVDFNTIDAEKIQTPPVKAYALSSGASIIIEGPGFTGGNL	540
Qy	541	LFLKESNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNNDPLVIYINKTMNK	600
Db	541	LFLKESNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNNDPLVIYINKTMNK	600
Qy	601	DDDLTYQTDFLATNNSMGFGSKNELIIGAESFVSNKEIYIDKIEFIPVOL	652
Db	601	DDDLTYQTDFLATNNSMGFGSKNELIIGAESFVSNKEIYIDKIEFIPVOL	652

RESULT 25

US-10-614-076-18

; Sequence 18, Application US/10614076

; Publication No. US20040033523A1

; GENERAL INFORMATION:

; APPLICANT: English, Leigh H.

; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLLEOPTERAN INSECTS
; FILE REFERENCE: MECO.218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614.076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: Patent in version 3.2
; SEQ ID NO 18
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-18

Query Match 99.5%; Score 3390; DB 15; Length 652;
Best Local Similarity 99.5%; Pred. No. 9.6e-261;
Matches 649; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy	1	MNPNNRSEHDTIKVTPNSELQTNHNOYPLADNPNSTLEELNYKEFLRMTESSSTEVLNDS	60
Db	1	MNPNNRSEHDTIKVTPNSELQTNHNOYPLADNPNSTLEELNYKEFLRMTESSSTEVLNDS	60
Qy	61	TVKDAVGTGISVVGQILGVGVPPAGALTSFYOSFLNTIWPSDADPWKAFMAQVEVLIDK	120
Db	61	TVKDAVGTGISVVGQILGVGVPPAGALTSFYOSFLNTIWPSDADPWKAFMAQVEVLIDK	120
Qy	121	KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRN	180
Db	121	KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRN	180
Qy	181	SMPSFAVSKFEVLFLPTYAQAANTHLLKDAQVFGEEGYSSSEDVAEFYHRQLKLTQOY	240
Db	181	SMPSFAVSKFEVLFLPTYAQAANTHLLKDAQVFGEEGYSSSEDVAEFYHRQLKLTQOY	240
Qy	241	TDHCVMNWNVGLNGLRGSTYDAWKFNRRPREMTLTVDLILVLPFFYDIRLYSKGVKTEL	300
Db	241	TDHCVMNWNVGLNGLRGSTYDAWKFNRRPREMTLTVDLILVLPFFYDIRLYSKGVKTEL	300
Qy	301	TRDIFTDPIFLNTLQEGYPTFLSIENSIRKPHLFDYLOQIEFHTRLQPGYFGKDSFNW	360
Db	301	TRDIFTDPIFLNTLQEGYPTFLSIENSIRKPHLFDYLOQIEFHTRLQPGYFGKDSFNW	360
Qy	361	SGNYVETRPSIGSSKITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAMPNGKVYLG	420
Db	361	SGNYVETRPSIGSSKITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAMPNGKVYLG	420
Qy	421	VTKVDFSQYDDQKNETSTQYDSKRNGHVSQAQDSIDQLPETTDREPLEKAYSHQNLNAYE	480
Db	421	VTKVDFSQYDDQKNETSTQYDSKRNGHVSQAQDSIDQLPETTDREPLEKAYSHQNLNAYE	480
Qy	481	CFLMQDRRGITPFTTWTTHRSVDFNTIDAEKIQTPPVKAYALSSGASIIIEGPGFTGGNL	540
Db	481	CFLMQDRRGITPFTTWTTHRSVDFNTIDAEKIQTPPVKAYALSSGASIIIEGPGFTGGNL	540
Qy	541	LFLKESNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNNDPLVIYINKTMNK	600
Db	541	LFLKESNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNNDPLVIYINKTMNK	600
Qy	601	DDDLTYQTDFLATNNSMGFGSKNELIIGAESFVSNKEIYIDKIEFIPVOL	652
Db	601	DDDLTYQTDFLATNNSMGFGSKNELIIGAESFVSNKEIYIDKIEFIPVOL	652

RESULT 26
US-10-614-076-40
; Sequence 40, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas W.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 40
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-40

Query Match 99.5%; Score 3390; DB 15; Length 652;
Best Local Similarity 99.5%; Pred. No. 9.6e-261;
Matches 649; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNPNNRSEHDTTKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTESSSTEVLNLS 60
Db 1 MNPNNRSEHDTTKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTESSSTEVLNLS 60
Qy 61 TVKDAVGTGISVVGQILGVVGPFPAGALTSFYQSFLNTIWPSPADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGISVVGQILGVVGPFPAGALTSFYQSFLNTIWPSPADPWKAFMAQVEVLIDK 120
Qy 121 KIEEVAKSALAELQGLQNNFEDYVNALNSWKTPLSLRKSQRIRLEFSAESHFNR 180
Db 121 KIEEVAKSALAELQGLQNNFEDYVNALNSWKTPLSLRKSQRIRLEFSAESHFNR 180
Qy 181 SMPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVGEWGYSSSDVAEFYHRLKLTQOY 240
Db 181 SMPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVGEWGYSSSDVAEFYHRLKLTQOY 240
Qy 241 TDHCVNWNVGLNGRGSTYDAWKFNRRREMTLTVLDLIVLFPFYDIRLYSKGVKTEL 300
Db 241 TDHCVNWNVGLNGRGSTYDAWKFNRRREMTLTVLDLIVLFPFYDIRLYSKGVKTEL 300
Qy 301 TRDIFTDFISLNTLOEYGTPLSIENSRKPHLDYLOGIEFHTRLOPGYFGKDSFNW 360
Db 301 TRDIFTDFISLNTLOEYGTPLSIENSRKPHLDYLOGIEFHTRLOPGYFGKDSFNW 360
Qy 361 SGNVETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVRRTIANTDVAAMPNGKVYLG 420
Db 361 SGNVETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVRRTIANTDVAAMPNGKVYLG 420
Qy 481 CFLMQDRRGTIIPFTWTHRSVDFNTIDAEKITQLPVKAYALSSGASIIIEGPGFTGNNL 540
Db 481 CFLMQDRRGTIIPFTWTHRSVDFNTIDAEKITQLPVKAYALSSGASIIIEGPGFTGNNL 540
Qy 541 LFLKSSNSIAKPKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600

Db 541 LFLKSSNSIAKPKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
Qy 601 DDDLTYYOTFDLATNNSNMFGSGDKNELIIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 601 DDDLTYYOTFDLATNNSNMFGSGDKNELIIIGAESFVSNEKIYIDKIEFIPVOL 652

RESULT 27
US-10-614-076-4
; Sequence 4, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas W.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 4
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-4

Query Match 99.5%; Score 3389; DB 15; Length 652;
Best Local Similarity 99.7%; Pred. No. 1.2e-260;
Matches 650; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 MNPNNRSEHDTTKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTESSSTEVLNLS 60
Db 1 MNPNNRSEHDTTKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTESSSTEVLNLS 60
Qy 61 TVKDAVGTGISVVGQILGVVGPFPAGALTSFYQSFLNTIWPSPADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGISVVGQILGVVGPFPAGALTSFYQSFLNTIWPSPADPWKAFMAQVEVLIDK 120
Qy 121 KIEEVAKSALAELQGLQNNFEDYVNALNSWKTPLSLRKSQRIRLEFSAESHFNR 180
Db 121 KIEEVAKSALAELQGLQNNFEDYVNALNSWKTPLSLRKSQRIRLEFSAESHFNR 180
Qy 181 SMPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVGEWGYSSSDVAEFYHRLKLTQOY 240
Db 181 SMPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVGEWGYSSSDVAEFYHRLKLTQOY 240
Qy 241 TDHCVNWNVGLNGRGSTYDAWKFNRRREMTLTVLDLIVLFPFYDIRLYSKGVKTEL 300
Db 241 TDHCVNWNVGLNGRGSTYDAWKFNRRREMTLTVLDLIVLFPFYDIRLYSKGVKTEL 300
Qy 301 TRDIFTDFISLNTLOEYGTPLSIENSRKPHLDYLOGIEFHTRLOPGYFGKDSFNW 360
Db 301 TRDIFTDFISLNTLOEYGTPLSIENSRKPHLDYLOGIEFHTRLOPGYFGKDSFNW 360
Qy 361 SGNVETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVRRTIANTDVAAMPNGKVYLG 420
Db 361 SGNVETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVRRTIANTDVAAMPNGKVYLG 420
Qy 421 VTKVDFPSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPETTDPELEKAYSHQNLV 480

Db 421 VTKVDFSQYDDQKNETSTQTYDSKRNGHVSAQDSIDLQPPETTDEPLEKAYSHQNLVYAE 480
Qy 481 CFLMQDRRGITPFTTWTTHRSVDFNTIDAETITOLPVVKAYALSSGASIIIEGPGFTGNNL 540
Db 481 CFLMQDRRGITPFTTWTTHRSVDFNTIDAETITOLPVVKAYALSSGASIIIEGPGFTGNNL 540
Qy 541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLVQNSNNDLVIYINKTMNK 600
Db 541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLVQNSNNDLVIYINKTMNK 600
Qy 601 DDDLTYQTFDLATNSNMGFGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 601 DDDLTYQTFDLATNSNMGFGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652

RESULT 28
US-10-614-076-52
; Sequence 52, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 52
; LENGTH: 651
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-52

Query Match 99.5%; Score 3387.5; DB 15; Length 651;
Best Local Similarity 99.7%; Pred. No. 1.5e-260;
Matches 650; Conservative 1; Mismatches 0; Indels 1; Gaps 1;
Qy 1 MNPNNRSEHDTIKVTPNSELQTNHNOYPLADNPNTLLEELNYKEFLRMTEDSSTEVLNDS 60
Db 1 MNPNNRSEHDTIKVTPNSELQTNHNOYPLADNPNTLLEELNYKEFLRMTEDSSTEVLNDS 60
Qy 61 TVKDAVGTGIVSVGQILGVGVFPAGALTIFYOSFLNTIWPSPDADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGIVSVGQILGVGVFPAGALTIFYOSFLNTIWPSE-DPWKAFMAQVEVLIDK 119
Qy 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRIELFSQAESHFRN 180
Db 120 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRIELFSQAESHFRN 179
Qy 181 SMPSPAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEGWSYSEDVAEFYHROLKLTQY 240
Db 180 SMPSPAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEGWSYSEDVAEFYHROLKLTQY 239
Qy 241 TDHCVNMYNGLNGLRGSTDYDAWKFNFRREMTLTVDLILVLPFFYDIRLYSGVKTEL 300
Db 240 TDHCVNMYNGLNGLRGSTDYDAWKFNFRREMTLTVDLILVLPFFYDIRLYSGVKTEL 299
Qy 301 TRDIFTDPIISLNTLQYGTFTFISIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
Db 300 TRDIFTDPIISLNTLQYGTFTFISIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 359

Qy 361 SGNVETRPISGSKTITSPFYGDKSTPEVKLSFQKQVYRTIANTDVAAMPNGKVYLG 420
Db 360 SGNVETRPISGSKTITSPFYGDKSTPEVKLSFQKQVYRTIANTDVAAMPNGKVYLG 419
Qy 421 VTKVDFSQYDDQKNETSTQTYDSKRNGHVSAQDSIDLQPPETTDEPLEKAYSHQNLVYAE 480
Db 420 VTKVDFSQYDDQKNETSTQTYDSKRNGHVSAQDSIDLQPPETTDEPLEKAYSHQNLVYAE 479
Qy 481 CFLMQDRRGITPFTTWTTHRSVDFNTIDAETITOLPVVKAYALSSGASIIIEGPGFTGNNL 540
Db 480 CFLMQDRRGITPFTTWTTHRSVDFNTIDAETITOLPVVKAYALSSGASIIIEGPGFTGNNL 539
Qy 541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLVQNSNNDLVIYINKTMNK 600
Db 540 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLVQNSNNDLVIYINKTMNK 599
Qy 601 DDDLTYQTFDLATNSNMGFGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 600 DDDLTYQTFDLATNSNMGFGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 651

RESULT 29

US-10-614-076-24
; Sequence 24, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 24
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-24

Query Match 99.4%; Score 3387; DB 15; Length 652;
Best Local Similarity 99.4%; Pred. No. 1.7e-260;
Matches 648; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Qy 1 MNPNNRSEHDTIKVTPNSELQTNHNOYPLADNPNTLLEELNYKEFLRMTEDSSTEVLNDS 60
Db 1 MNPNNRSEHDTIKVTPNSELQTNHNOYPLADNPNTLLEELNYKEFLRMTEDSSTEVLNDS 60
Qy 61 TVKDAVGTGIVSVGQILGVGVFPAGALTIFYOSFLNTIWPSPDADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGIVSVGQILGVGVFPAGALTIFYOSFLNTIWPSPDADPWKAFMAQVEVLIDK 120
Qy 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRIELFSQAESHFRN 180
Db 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRIELFSQAESHFRN 180
Qy 181 SMPSPAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEGWSYSEDVAEFYHROLKLTQY 240
Db 181 SMPSPAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEGWSYSEDVAEFYHROLKLTQY 240

Db 1 MNPNNRSEHDTIKVTPNSELQTNHNOYPLADNPNSLTLEELNYKEFLRMTEDSDSSTEVLDS 60
Qy 61 TVKDAVGTGIVSVGQILGVVGPAGALTSFYQSFLNTIWPSDADPWKAPMAQVEVLIDK 120
Db 61 TVKDAVGTGIVSVGQILGVVGPAGALTSFYQSFLNTIWPSDADPWKAPMAQVEVLIDK 120
Qy 121 KIEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSDRIRELFSQAESHFRN 180
Db 121 KIEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRPHSQGRIRELFSQAESHFRN 180
Qy 181 SMPFAVSKFEVLFLPTYAQAAANTHLLLDKDAQVGEWGYSSYEDVAEFYHRLQKLTQY 240
Db 181 SMPFAVSKFEVLFLPTYAQAAANTHLLLDKDAQVGEWGYSSYEDVAEFYHRLQKLTQY 240
Qy 241 TDHCVNMYNGLNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPYDIRLYSGVKTEL 300
Db 241 TDHCVNMYNGLNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPYDIRLYSGVKTEL 300
Qy 301 TRDIFTDPIFSLNTLOEYGPFTLSIENSIRKPHLFDYLOGIEFHTRLPQGYFGKDSFNW 360
Db 301 TRDIFTDPIFSLNTLOEYGPFTLSIENSIRKPHLFDYLOGIEFHTRLPQGYFGKDSFNW 360
Qy 361 SGNVETRPISGSKTITSPPFYGDKSTEPVKLSFDQKQVYRTIANTDVAAPNGKYL 420
Db 361 SGNVETRPISGSKTITSPPFYGDKSTEPVKLSFDQKQVYRTIANTDVAAPNGKYL 420
Qy 421 VTKVDSQYDDQKNETSTQYDSKRNGHVSADSIDQLPETTDEPLEKAYSHQNYAE 480
Db 421 VTKVDSQYDDQKNETSTQYDSKRNGHVSADSIDQLPETTDEPLEKAYSHQNYAE 480
Qy 481 CFLMQDRRGITPFTTTHRSVDFPNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTG 540
Db 481 CFLMQDRRGITPFTTTHRSVDFPNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTG 540
Qy 541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
Db 541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
Qy 601 DDDLTYQTFDLATNSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 601 DDDLTYQTFDLATNSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652

RESULT 32

US-10-614-076-22
; Sequence 22, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersach, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO-218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR FILING DATE: 1999-10-27
; PRIOR FILING DATE: 1999-10-27
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 22
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-22

Query Match 99.3%; Score 3382; DB 15; Length 652;
Best Local Similarity 99.4%; Pred No. 4.2e-260;
Matches 648; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
Qy 1 MNPNNRSEHDTIKVTPNSELQTNHNOYPLADNPNSLTLEELNYKEFLRMTEDSDSSTEVLDS 60
Db 1 MNPNNRSEHDTIKVTPNSELQTNHNOYPLADNPNSLTLEELNYKEFLRMTEDSDSSTEVLDS 60
Qy 61 TVKDAVGTGIVSVGQILGVVGPAGALTSFYQSFLNTIWPSDADPWKAPMAQVEVLIDK 120
Db 61 TVKDAVGTGIVSVGQILGVVGPAGALTSFYQSFLNTIWPSDADPWKAPMAQVEVLIDK 120
Qy 121 KIEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSDRIRELFSQAESHFRN 180
Db 121 KIEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSDRIRELFSQAESHFRN 180
Qy 181 SMPFAVSKFEVLFLPTYAQAAANTHLLLDKDAQVGEWGYSSYEDVAEFYHRLQKLTQY 240
Db 181 SMPFAVSKFEVLFLPTYAQAAANTHLLLDKDAQVGEWGYSSYEDVAEFYHRLQKLTQY 240
Qy 241 TDHCVNMYNGLNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPYDIRLYSGVKTEL 300
Db 241 TDHCVNMYNGLNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPYDIRLYSGVKTEL 300
Qy 301 TRDIFTDPIFSLNTLOEYGPFTLSIENSIRKPHLFDYLOGIEFHTRLPQGYFGKDSFNW 360
Db 301 TRDIFTDPIFSLNTLOEYGPFTLSIENSIRKPHLFDYLOGIEFHTRLPQGYFGKDSFNW 360
Qy 361 SGNVETRPISGSKTITSPPFYGDKSTEPVKLSFDQKQVYRTIANTDVAAPNGKYL 420
Db 361 SGNVETRPISGSKTITSPPFYGDKSTEPVKLSFDQKQVYRTIANTDVAAPNGKYL 420
Qy 421 VTKVDSQYDDQKNETSTQYDSKRNGHVSADSIDQLPETTDEPLEKAYSHQNYAE 480
Db 421 VTKVDSQYDDQKNETSTQYDSKRNGHVSADSIDQLPETTDEPLEKAYSHQNYAE 480
Qy 481 CFLMQDRRGITPFTTTHRSVDFPNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTG 540
Db 481 CFLMQDRRGITPFTTTHRSVDFPNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTG 540
Qy 541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
Db 541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
Qy 601 DDDLTYQTFDLATNSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 601 DDDLTYQTFDLATNSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652

RESULT 33

US-10-614-076-36
; Sequence 36, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersach, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO-218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR FILING DATE: 1999-10-27
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2

```
; SEQ ID NO 36
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-36

Query Match      99.2%; Score 3380; DB 15; Length 652;
Best Local Similarity 99.4%; Pred. No. 6e-260;
Matches 648; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 MNPNNRSEHDTTKVTPNSELQTNHNOYPLADNPSTLBELNYKEFLRMTESSSTEVLNDS 60
DB 1 MNPNNRSEHDTTKVTPNSELQTNHNOYPLADNPSTLBELNYKEFLRMTESSSTEVLNDS 60
QY 61 TVKDAVGTGISVVGQILGVGVPPFAGALTSTFYQSFNTIWPSDADPWKAFMAQVEVLIDK 120
DB 61 TVKDAVGTGISVVGQILGVGVPPFAGALTSTFYQSFNTIWPSDADPWKAFMAQVEVLIDK 120
QY 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRKSKSDRIRELFSQAESHFRN 180
DB 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRKSKSDRIRELFSQAESHFRN 180
QY 181 SMPFAVSKFEVLFLPTVAQAANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQOY 240
DB 181 SMPFAVSKFEVLFLPTVAQAANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQOY 240
QY 241 TDHCNNWYVGLNGLRGSTDYDAWKFNRRREMTLTVLDLIVLPFPYDIRLYSKGVKTEL 300
DB 241 TDHCNNWYVGLNGLRGSTDYDAWKFNRRREMTLTVLDLIVLPFPYDIRLYSKGVKTEL 300
QY 301 TRDIFTDPIFSLNTLOEYGTFLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
DB 301 TRDIFTDPIFSLNTLOEYGTFLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
QY 361 SGNVETRPSIGSSKTIITSPFYGDKSTPEVKLSFDGQKVYRTIANTDVAAMPNGKVYLG 420
DB 361 SGNVETRPSIGSSKTIITSPFYGDKSTPEVKLSFDGQKVYRTIANTDVAAMPNGKVYLG 420
QY 421 VTKVDFSOYDDQKNSTSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLN 480
DB 421 VTKVDFSOYDDQKNSTSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLN 480
QY 541 LFLKESNSSIAKFKVTLSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
DB 541 LFLKESNSSIAKFKVTLSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
QY 601 DDDLTYQTDFLATNNSMGSGDKNELIIGAESFVSNKEIYIDKIEFIPVQL 652
DB 601 DDDLTYQTDFLATNNSMGSGDKNELIIGAESFVSNKEIYIDKIEFIPVQL 652

RESULT 34
US-10-614-076-38
; Sequence 38, Application US/10614076
; Publication No. US2004003523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Bryson, Thomas W.
; APPLICANT: Kulesza, Catoline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614.076
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; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 50
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-50

Query Match 99.2%; Score 3379; DB 15; Length 652;
Best Local Similarity 99.1%; Pred. No. 7.2e-260;
Matches 646; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

Qy	1	MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNSTLEELNYKEFLRMTESSSTEVLDS	60
Db	1	MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNSTLEELNYKEFLRMTESSSTEVLDS	60
Qy	61	TVKDVGVTGTSVVGQILGVGVFPAGALTSTFYOSFLNTIWPSDADPWKAFMAQVEVLIDK	120
Db	61	TVKDVGVTGTSVVGQILGVGVFPAGALTSTFYOSFLNTIWPSDADPWKAFMAQVEVLIDK	120
Qy	121	KIEEYAKSALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRQDRIRELFSQAESHFRN	180
Db	121	KIEEYAKSALAELOGLQNNFEDYVNALNSWKKTPLSLRNPHQGRIRELFSQAESHFRN	180
Qy	181	SMPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEGWSYSEDVAEFYHRLQKLTQOY	240
Db	181	SMPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEGWSYSEDVAEFYHRLQKLTQOY	240
Qy	241	TDHCVMNMYNGLNGLRGSTYDAMVKFNRRPREMTLTVDLI VLPFFYDIRLYSGVKTEL	300
Db	241	TDHCVMNMYNGLNGLRGSTYDAMVKFNRRPREMTLTVDLI VLPFFYDIRLYSGVKTEL	300
Qy	301	TRDIFTDPIFSLNTLOEYGTPLSLIENSIRKPHLFDYLOGIEPHTRLPQCYFGKDSFNW	360
Db	301	TRDIFTDPIFSLNTLOEYGTPLSLIENSIRKPHLFDYLOGIEPHTRLPQCYFGKDSFNW	360
Qy	361	SGNYVETRPSIGSKTITSPPFYGDKSTEPVKLSFDGQKVYRTIANTDVAAPNGKYL	420
Db	361	SGNYVETRPSIGSKTITSPPFYGDKSTEPVKLSFDGQKVYRTIANTDVAAPNGKYL	420
Qy	421	VTKVDSQYDDQKNETSTQYDSKRNGHVSQAQSDIDQLPETTDEPLEKAYSHQLNYAE	480
Db	421	VTKVDSQYDDQKNETSTQYDSKRNGHVSQAQSDIDQLPETTDEPLEKAYSHQLNYAE	480
Qy	481	CFLMQDRRGITIPFTTWTTHRSVDFPNTIDAEKITQLPVKAYALSSGASIIIEGPGFTGGNL	540
Db	481	CFLMQDRRGITIPFTTWTTHRSVDFPNTIDAEKITQLPVKAYALSSGASIIIEGPGFTGGNL	540
Qy	541	LFLKSSNSIAKPKVTLSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK	600
Db	541	LFLKSSNSIAKPKVTLSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK	600
Qy	601	DDDLTYQTFLATNSMGSGDKNELIIIGAESFVSNKEIYIDKIEFIPVOL 652	
Db	601	DDDLTYQTFLATNSMGSGDKNELIIIGAESFVSNKEIYIDKIEFIPVOL 652	

RESULT 36
US-10-614-076-2

; Sequence 2, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 2
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-2

Query Match 99.1%; Score 3377; DB 15; Length 652;
Best Local Similarity 99.4%; Pred. No. 1e-259;
Matches 648; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

Qy	1	MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNSTLEELNYKEFLRMTESSSTEVLDS	60
Db	1	MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNSTLEELNYKEFLRMTESSSTEVLDS	60
Qy	61	TVKDVGVTGTSVVGQILGVGVFPAGALTSTFYOSFLNTIWPSDADPWKAFMAQVEVLIDK	120
Db	61	TVKDVGVTGTSVVGQILGVGVFPAGALTSTFYOSFLNTIWPSDADPWKAFMAQVEVLIDK	120
Qy	121	KIEEYAKSALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRQDRIRELFSQAESHFRN	180
Db	121	KIEEYAKSALAELOGLQNNFEDYVNALNSWKKFHRSRKRQDRIRELFSQAESHFRN	180
Qy	181	SMPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEGWSYSEDVAEFYHRLQKLTQOY	240
Db	181	SMPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEGWSYSEDVAEFYHRLQKLTQOY	240
Qy	241	TDHCVMNMYNGLNGLRGSTYDAMVKFNRRPREMTLTVDLI VLPFFYDIRLYSGVKTEL	300
Db	241	TDHCVMNMYNGLNGLRGSTYDAMVKFNRRPREMTLTVDLI VLPFFYDIRLYSGVKTEL	300
Qy	301	TRDIFTDPIFSLNTLOEYGTPLSLIENSIRKPHLFDYLOGIEPHTRLPQCYFGKDSFNW	360
Db	301	TRDIFTDPIFSLNTLOEYGTPLSLIENSIRKPHLFDYLOGIEPHTRLPQCYFGKDSFNW	360
Qy	361	SGNYVETRPSIGSKTITSPPFYGDKSTEPVKLSFDGQKVYRTIANTDVAAPNGKYL	420
Db	361	SGNYVETRPSIGSKTITSPPFYGDKSTEPVKLSFDGQKVYRTIANTDVAAPNGKYL	420
Qy	421	VTKVDSQYDDQKNETSTQYDSKRNGHVSQAQSDIDQLPETTDEPLEKAYSHQLNYAE	480
Db	421	VTKVDSQYDDQKNETSTQYDSKRNGHVSQAQSDIDQLPETTDEPLEKAYSHQLNYAE	480
Qy	481	CFLMQDRRGITIPFTTWTTHRSVDFPNTIDAEKITQLPVKAYALSSGASIIIEGPGFTGGNL	540
Db	481	CFLMQDRRGITIPFTTWTTHRSVDFPNTIDAEKITQLPVKAYALSSGASIIIEGPGFTGGNL	540
Qy	541	LFLKSSNSIAKPKVTLSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK	600
Db	541	LFLKSSNSIAKPKVTLSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK	600

QY 601 DDLTYQTFDLATTNSNMFGSKNELIIGAESFVSNEKIYIDKIEFIPVQL 652
Db 601 DDLTYQTFDLATTNSNMFGSKNELIIGAESFVSNEKIYIDKIEFIPVQL 652

RESULT 37
US-10-232-665-8
; Sequence 8, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 8
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: non-naturally
; OTHER INFORMATION: occurring amino acid sequence encoded by SEQ ID NO: 7
; NAME/KEY: PRT
; LOCATION: (1)..(653)
; OTHER INFORMATION: amino acid sequence for Cry3Bb variant v11231 encoded by SEQ ID N
US-10-232-665-8

Query Match 99.1%; Score 3377; DB 14; Length 653;
Best Local Similarity 99.4%; Pred. No. 1e-259;
Matches 647; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 2 NPNRSEHDTIKVTPNSELQTNHNOYPLADNPSTLEELNYKEFLRMTESSTEVLNDST 61
Db 3 NPNRSEHDTIKVTPNSELQTNHNOYPLADNPSTLEELNYKEFLRMTESSTEVLNDST 62
QY 62 VKDAVGTGISVVGQILGVGVFPAGALTSFYQSFLNTIWPSSADPWKAFMAQVEVLIDKK 121
Db 63 VKDAVGTGISVVGQILGVGVFPAGALTSFYQSFLNTIWPSSADPWKAFMAQVEVLIDKK 122
QY 122 IEYAKSKALAELOGLQNNPEDIYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRNS 181
Db 123 IEYAKSKALAELOGLQNNPEDIYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRNS 182
QY 182 MPSPAVSKFEVLFLPTYAQANHTLLLLKDAQVFGGEWGYSSSDVAEFYHRQLKLTQQYT 241
Db 183 MPSPAVSKFEVLFLPTYAQANHTLLLLKDAQVFGGEWGYSSSDVAEFYHRQLKLTQQYT 242
QY 242 DHCNVNMYNGLRGSTYDAWKFNRRFRREMTLTVLDLVLPPFYDILRYSKGVKTELT 301
Db 243 DHCNVNMYNGLRGSTYDAWKFNRRFRREMTLTVLDLVLPPFYDILRYSKGVKTELT 302
QY 302 RDIPTDPIFSLNTLOEYGPFTLSIENSRKPHLFDYLOGIEFTRLOPGYFGKDSFNYS 361
Db 303 RDIPTDPIFSLNTLOEYGPFTLSIENSRKPHLFDYLOGIEFTRLOPGYFGKDSFNYS 362
QY 362 GNYVETRPSIGSSKTTITSPYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 421
Db 363 GNYVETRPSIGSSKTTITSPYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 422
QY 422 TKVDFSQYDDQKNETSTQTYDSKRNGHVSAQSDIDQLPPETTTDEPLEKAYSHQLNAYEC 481
Db 423 TKVDFSQYDDQKNETSTQTYDSKRNGHVSAQSDIDQLPPETTTDEPLEKAYSHQLNAYEC 482
QY 482 FLMDRRGTIPFFTWTHRSVDFNTDAEKITQLPVVKAYALSSGASIIIEGPGFTGNLL 541
Db 483 FLMDRRGTIPFFTWTHRSVDFNTDAEKITQLPVVKAYALSSGASIIIEGPGFTGNLL 542
QY 542 FLKSSNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNDFLVIYINKTMNKD 601

Db 543 FLKSSNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNDFLVIYINKTMNKD 602
QY 602 DDLTYQTFDLATTNSNMFGSKNELIIGAESFVSNEKIYIDKIEFIPVQL 652
Db 603 DDLTYQTFDLATTNSNMFGSKNELIIGAESFVSNEKIYIDKIEFIPVQL 653

RESULT 38
US-10-232-665-14
; Sequence 14, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 14
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: peptide encoded by SEQ ID NO: 1
; NAME/KEY: PRT
; LOCATION: (1)..(653)
; OTHER INFORMATION: Cry3Bb1 variant v11231
US-10-232-665-14

Query Match 99.1%; Score 3377; DB 14; Length 653;
Best Local Similarity 99.4%; Pred. No. 1e-259;
Matches 647; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 2 NPNRSEHDTIKVTPNSELQTNHNOYPLADNPSTLEELNYKEFLRMTESSTEVLNDST 61
Db 3 NPNRSEHDTIKVTPNSELQTNHNOYPLADNPSTLEELNYKEFLRMTESSTEVLNDST 62
QY 62 VKDAVGTGISVVGQILGVGVFPAGALTSFYQSFLNTIWPSSADPWKAFMAQVEVLIDKK 121
Db 63 VKDAVGTGISVVGQILGVGVFPAGALTSFYQSFLNTIWPSSADPWKAFMAQVEVLIDKK 122
QY 122 IEYAKSKALAELOGLQNNPEDIYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRNS 181
Db 123 IEYAKSKALAELOGLQNNPEDIYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRNS 182
QY 182 MPSPAVSKFEVLFLPTYAQANHTLLLLKDAQVFGGEWGYSSSDVAEFYHRQLKLTQQYT 241
Db 183 MPSPAVSKFEVLFLPTYAQANHTLLLLKDAQVFGGEWGYSSSDVAEFYHRQLKLTQQYT 242
QY 242 DHCNVNMYNGLRGSTYDAWKFNRRFRREMTLTVLDLVLPPFYDILRYSKGVKTELT 301
Db 243 DHCNVNMYNGLRGSTYDAWKFNRRFRREMTLTVLDLVLPPFYDILRYSKGVKTELT 302
QY 302 RDIPTDPIFSLNTLOEYGPFTLSIENSRKPHLFDYLOGIEFTRLOPGYFGKDSFNYS 361
Db 303 RDIPTDPIFSLNTLOEYGPFTLSIENSRKPHLFDYLOGIEFTRLOPGYFGKDSFNYS 362
QY 362 GNYVETRPSIGSSKTTITSPYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 421
Db 363 GNYVETRPSIGSSKTTITSPYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 422
QY 422 TKVDFSQYDDQKNETSTQTYDSKRNGHVSAQSDIDQLPPETTTDEPLEKAYSHQLNAYEC 481
Db 423 TKVDFSQYDDQKNETSTQTYDSKRNGHVSAQSDIDQLPPETTTDEPLEKAYSHQLNAYEC 482
QY 482 FLMDRRGTIPFFTWTHRSVDFNTDAEKITQLPVVKAYALSSGASIIIEGPGFTGNLL 541
Db 483 FLMDRRGTIPFFTWTHRSVDFNTDAEKITQLPVVKAYALSSGASIIIEGPGFTGNLL 542

Qy 542 FLKSSNSIAKFKVTLNSAALLQRYRIRYASTTNLRFLVQSNNDFLVIYINKTMNKD 601
Db 543 FLKSSNSIAKFKVTLNSAALLQRYRIRYASTTNLRFLVQSNNDFLVIYINKTMNKD 602
Qy 602 DDLTYQTFDLATTNSNMFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVQL 652
Db 603 DDLTYQTFDLATTNSNMFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVQL 653

RESULT 39
US-10-232-665-16
; Sequence 16, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 16
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; NAME/KEY: PRT
; LOCATION: (1)..(653)
; OTHER INFORMATION: Cry3Bb1 variant v11231
US-10-232-665-16

Query Match 99.1%; Score 3377; DB 14; Length 653;
Best Local Similarity 99.4%; Pred. No. 1e-259;
Matches 647; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 2 NPNRSEHDTIKVTPNSELTQNHQVPLADNPNSTLEELNYKEFLRMTESSSTEVLNDST 61
Db 3 NPNRSEHDTIKVTPNSELTQNHQVPLADNPNSTLEELNYKEFLRMTESSSTEVLNDST 62
Qy 62 VKDAVGTGISVWGQILGVGVPPFAGALTSTFYQSFLNTIMPSPADPWKAFMAQVEVLIDKK 121
Db 63 VKDAVGTGISVWGQILGVGVPPFAGALTSTFYQSFLNTIMPSPADPWKAFMAQVEVLIDKK 122
Qy 122 IEYAKSKALAEQLQGNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHFRNS 181
Db 123 IEYAKSKALAEQLQGNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHFRNS 182
Qy 182 MPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGGEWGYSSSDVAEFYHRQLKLTQOYT 241
Db 183 MPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGGEWGYSSSDVAEFYHRQLKLTQOYT 242
Qy 242 DHCVMNMYNGLGLRGSTYDAWKFNRRFREMRTLTVLDLIVLPPFYDIRLYSGVKTELT 301
Db 243 DHCVMNMYNGLGLRGSTYDAWKFNRRFREMRTLTVLDLIVLPPFYDIRLYSGVKTELT 302
Qy 302 RDIPTDPIFSLNTLOEGYPTFLSIENSIRKPHLFDYLOGIEFTRLPQGVFGKDSFNYS 361
Db 303 RDIPTDPIFLLTLQKYGPTFLSIENSIRKPHLFDYLOGIEFTRLPQGVFGKDSFNYS 362
Qy 362 GNVETRPSIGSKTITSPYGDKSTPEVQKLSFDQGVKVRTIANTDVAAPNGKVYLG 421
Db 363 GNVETRPSIGSKTITSPYGDKSTPEVQKLSFDQGVKVRTIANTDVAAPNGKVYLG 422
Qy 422 TKVDFSQYDDQKNETSTQTYDSKRNGHVSQAQSDSDQLPETTDEPLEKAYSHQLNAYEC 481
Db 423 TKVDFSQYDDQKNETSTQTYDSKRNGHVSQAQSDSDQLPETTDEPLEKAYSHQLNAYEC 482
Qy 482 FLMDRRGTIPPTTWTTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNLL 541
Db 483 FLMDRRGTIPPTTWTTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNLL 542

Qy 542 FLKSSNSIAKFKVTLNSAALLQRYRIRYASTTNLRFLVQSNNDFLVIYINKTMNKD 601
Db 543 FLKSSNSIAKFKVTLNSAALLQRYRIRYASTTNLRFLVQSNNDFLVIYINKTMNKD 602
Qy 602 DDLTYQTFDLATTNSNMFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVQL 652
Db 603 DDLTYQTFDLATTNSNMFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVQL 653

RESULT 40
US-10-232-665-37
; Sequence 37, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 37
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; NAME/KEY: PRT
; LOCATION: (1)..(653)
; OTHER INFORMATION: variant Cry3Bb1 coding sequence encoding v11231
US-10-232-665-37

Query Match 99.1%; Score 3377; DB 14; Length 653;
Best Local Similarity 99.4%; Pred. No. 1e-259;
Matches 647; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 2 NPNRSEHDTIKVTPNSELTQNHQVPLADNPNSTLEELNYKEFLRMTESSSTEVLNDST 61
Db 3 NPNRSEHDTIKVTPNSELTQNHQVPLADNPNSTLEELNYKEFLRMTESSSTEVLNDST 62
Qy 62 VKDAVGTGISVWGQILGVGVPPFAGALTSTFYQSFLNTIMPSPADPWKAFMAQVEVLIDKK 121
Db 63 VKDAVGTGISVWGQILGVGVPPFAGALTSTFYQSFLNTIMPSPADPWKAFMAQVEVLIDKK 122
Qy 122 IEYAKSKALAEQLQGNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHFRNS 181
Db 123 IEYAKSKALAEQLQGNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHFRNS 182
Qy 182 MPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGGEWGYSSSDVAEFYHRQLKLTQOYT 241
Db 183 MPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGGEWGYSSSDVAEFYHRQLKLTQOYT 242
Qy 242 DHCVMNMYNGLGLRGSTYDAWKFNRRFREMRTLTVLDLIVLPPFYDIRLYSGVKTELT 301
Db 243 DHCVMNMYNGLGLRGSTYDAWKFNRRFREMRTLTVLDLIVLPPFYDIRLYSGVKTELT 302
Qy 302 RDIPTDPIFSLNTLOEGYPTFLSIENSIRKPHLFDYLOGIEFTRLPQGVFGKDSFNYS 361
Db 303 RDIPTDPIFLLTLQKYGPTFLSIENSIRKPHLFDYLOGIEFTRLPQGVFGKDSFNYS 362
Qy 362 GNVETRPSIGSKTITSPYGDKSTPEVQKLSFDQGVKVRTIANTDVAAPNGKVYLG 421
Db 363 GNVETRPSIGSKTITSPYGDKSTPEVQKLSFDQGVKVRTIANTDVAAPNGKVYLG 422
Qy 422 TKVDFSQYDDQKNETSTQTYDSKRNGHVSQAQSDSDQLPETTDEPLEKAYSHQLNAYEC 481
Db 423 TKVDFSQYDDQKNETSTQTYDSKRNGHVSQAQSDSDQLPETTDEPLEKAYSHQLNAYEC 482
Qy 482 FLMDRRGTIPPTTWTTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNLL 541
Db 483 FLMDRRGTIPPTTWTTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNLL 542

QY 542 FLKSSNSIAKFKVTLSAALLQRYVRIRYASTTNLRFLVQNSNDFLVIYINKTNK 601
Db 543 FLKSSNSIAKFKVTLSAALLQRYVRIRYASTTNLRFLVQNSNDFLVIYINKTNK 602
QY 602 DDLTYQTFDLATTSNMFGSDKNELIIGAESFVSNEKIYIDKIEFIPVQL 652
Db 603 DDLTYQTFDLATTSNMFGSDKNELIIGAESFVSNEKIYIDKIEFIPVQL 653

RESULT 41
US-10-232-665-39
; Sequence 39, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; PRIOR FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 39
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; NAME/KEY: PRT
; LOCATION: (1)..(653)
; OTHER INFORMATION: variant Cry3Bb1 coding sequence encoding v11231
US-10-232-665-39

Query Match 99.1%; Score 3377; DB 14; Length 653;
Best Local Similarity 99.4%; Pred. No. 1e-259;
Matches 647; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 2 NPNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSSTEVLNDST 61
Db 3 NPNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSSTEVLNDST 62
QY 62 VKDAVGTGILGVVGGIILGWVVPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDKK 121
Db 63 VKDAVGTGILGVVGGIILGWVVPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDKK 122
QY 122 IEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSAESHFRNS 181
Db 123 IEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSAESHFRNS 182
QY 182 MPFAVSKFEVLFLPTYQAANTHLLKDAQVFGEEGYSSEDAEYFRRQLKLTQQYT 241
Db 183 MPFAVSKFEVLFLPTYQAANTHLLKDAQVFGEEGYSSEDAEYFRRQLKLTQQYT 242
QY 242 DHCNVNMYNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPFYDIRLSKGVKTELT 301
Db 243 DHCNVNMYNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPFYDIRLSKGVKTELT 302
QY 302 RDIPTDPIFSLNLTQYEGPTFLSIENSIRKPHLDYLOGLIEFHTRLQPGYFGKDSFNYS 361
Db 363 GNVVETRPSIGSSKTIITSPFYGDKSTPEVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 421
QY 422 TKVDFSDYDDQKNETSTQYDYSKRNGHVSQAQSIDQLPETTIDPLEKAYSHQLNVAEC 481
Db 423 TKVDFSDYDDQKNETSTQYDYSKRNGHVSQAQSIDQLPETTIDPLEKAYSHQLNVAEC 482
QY 482 FLMDRRGTIPFPFTWTHRSVDFNTIDAETITQLPVVKAVALSSGASIIIEGPGFTGNLL 541
Db 483 FLMDRRGTIPFPFTWTHRSVDFNTIDAETITQLPVVKAVALSSGASIIIEGPGFTGNLL 542

QY 542 FLKSSNSIAKFKVTLSAALLQRYVRIRYASTTNLRFLVQNSNDFLVIYINKTNK 601
Db 543 FLKSSNSIAKFKVTLSAALLQRYVRIRYASTTNLRFLVQNSNDFLVIYINKTNK 602
QY 602 DDLTYQTFDLATTSNMFGSDKNELIIGAESFVSNEKIYIDKIEFIPVQL 652
Db 603 DDLTYQTFDLATTSNMFGSDKNELIIGAESFVSNEKIYIDKIEFIPVQL 653

RESULT 42
US-10-614-076-100
; Sequence 100, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terssch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 100
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-100

Query Match 99.1%; Score 3377; DB 15; Length 653;
Best Local Similarity 99.4%; Pred. No. 1e-259;
Matches 647; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 2 NPNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSSTEVLNDST 61
Db 3 NPNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSSTEVLNDST 62
QY 62 VKDAVGTGILGVVGGIILGWVVPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDKK 121
Db 63 VKDAVGTGILGVVGGIILGWVVPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDKK 122
QY 122 IEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSAESHFRNS 181
Db 123 IEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSAESHFRNS 182
QY 182 MPFAVSKFEVLFLPTYQAANTHLLKDAQVFGEEGYSSEDAEYFRRQLKLTQQYT 241
Db 183 MPFAVSKFEVLFLPTYQAANTHLLKDAQVFGEEGYSSEDAEYFRRQLKLTQQYT 242
QY 242 DHCNVNMYNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPFYDIRLSKGVKTELT 301
Db 243 DHCNVNMYNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPFYDIRLSKGVKTELT 302
QY 302 RDIPTDPIFSLNLTQYEGPTFLSIENSIRKPHLDYLOGLIEFHTRLQPGYFGKDSFNYS 361
Db 363 GNVVETRPSIGSSKTIITSPFYGDKSTPEVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 421
QY 422 TKVDFSDYDDQKNETSTQYDYSKRNGHVSQAQSIDQLPETTIDPLEKAYSHQLNVAEC 481
Db 423 TKVDFSDYDDQKNETSTQYDYSKRNGHVSQAQSIDQLPETTIDPLEKAYSHQLNVAEC 482
QY 482 FLMDRRGTIPFPFTWTHRSVDFNTIDAETITQLPVVKAVALSSGASIIIEGPGFTGNLL 541
Db 483 FLMDRRGTIPFPFTWTHRSVDFNTIDAETITQLPVVKAVALSSGASIIIEGPGFTGNLL 542

QY 422 TKVDFSYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPETTDEPLEKAYSHQLNVAEC 481
DB 423 TKVDFSYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPETTDEPLEKAYSHQLNVAEC 482
QY 482 FLWQDRGTTIPFFTWTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGGNLL 541
DB 483 FLWQDRGTTIPFFTWTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGGNLL 542
QY 542 FLKSSNSIAKFVKVTLNSAALLQRYRIRYASTTNLRLFVQNSNDFLVIYINKTNMKD 601
DB 543 FLKSSNSIAKFVKVTLNSAALLQRYRIRYASTTNLRLFVQNSNDFLVIYINKTNMKD 602
QY 602 DDLTYQTFDLATNSNMGFGDKNELIIGAESFVSNKEIYIDKIEFIPVQL 652
DB 603 DDLTYQTFDLATNSNMGFGDKNELIIGAESFVSNKEIYIDKIEFIPVQL 653

RESULT 43
US-10-614-076-108
; Sequence 108, Application US/10614076
; Publication No. US2004003323A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 108
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-108

Query Match 99.1%; Score 3375; DB 15; Length 652;
Best Local Similarity 99.2%; Pred. No. 1.5e-259;
Matches 647; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

QY 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPNSTLEELNYKEFLRMTEDSDTEVLNDS 60
DB 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPNSTLEELNYKEFLRMTEDSDTEVLNDS 60
QY 61 TVKDAVGTGISVVGQILGVGVPPFAGALTSTFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
DB 61 TVKDAVGTGISVVGQILGVGVPPFAGALTSTFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
QY 121 KIEEYAKSKALAEQLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHFRN 180
DB 121 KIEEYAKSKALAEQLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHFRN 180
QY 181 SMPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGGEWGYSSSEDVAEFYHROLKLTQOYT 240
DB 181 SMPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGGEWGYSSSEDVAEFYHROLKLTQOYT 240
QY 241 TDHCVMNWNVGLNGLRGSTYDAWKFNRRFEMTLTVLDLILVLPFDIIRLYSKGVKTEL 300
DB 241 TDHCVMNWNVGLNGLRGSTYDAWKFNRRFEMTLTVLDLILVLPFDIIRLYSKGVKTEL 300
QY 301 TRDIFTDPIFLLTQKYGPTFLSIENSIRKPHLFDYLOQIEFHTRLQPGYFGKDSFNW 360

DB 301 TRDIFTDPIFLLTQKYGPTFLSIENSIRKPHLFDYLOQIEFHTRLQPGYFGKDSFNW 360
QY 361 SGNVETRPSIGSKTITSPFYGDKSTEPVOKLSFDQOKYVRTIANTDVAWPNKGKYL 420
DB 361 SGNVETRPSIGSKTITSPFYGDKSTEPVOKLSFDQOKYVRTIANTDVAWPNKGKYL 420
QY 421 VTKVDFSYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPETTDEPLEKAYSHQLNVAE 480
DB 421 VTKVDFSYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPETTDEPLEKAYSHQLNVAE 480
QY 481 CFLWQDRGTTIPFFTWTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGGNLL 540
DB 481 CFLWQDRGTTIPFFTWTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGGNLL 540
QY 541 LFLKSSNSIAKFVKVTLNSAALLQRYRIRYASTTNLRLFVQNSNDFLVIYINKTNMK 600
DB 541 LFLKSSNSIAKFVKVTLNSAALLQRYRIRYASTTNLRLFVQNSNDFLVIYINKTNMK 600
QY 601 DDLTYQTFDLATNSNMGFGDKNELIIGAESFVSNKEIYIDKIEFIPVQL 652
DB 601 DDLTYQTFDLATNSNMGFGDKNELIIGAESFVSNKEIYIDKIEFIPVQL 652

RESULT 44
US-10-232-665-12
; Sequence 12, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 12
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: non-naturally
; OTHER INFORMATION: Occurring amino acid sequence encoded by SEQ ID NO:11
; NAME/KEY: PRT
; LOCATION: (1)..(1653)
; OTHER INFORMATION: amino acid sequence encoded by SEQ ID NO:11
US-10-232-665-12

Query Match 99.0%; Score 3373; DB 14; Length 653;
Best Local Similarity 99.2%; Pred. No. 2.2e-259;
Matches 646; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 2 NPNNRSEHDTIKVTPNSELOTHNQYPLADNPNSTLEELNYKEFLRMTEDSDTEVLNDS 61
DB 3 NPNNRSEHDTIKVTPNSELOTHNQYPLADNPNSTLEELNYKEFLRMTEDSDTEVLNDS 62
QY 62 VKDAVGTGISVVGQILGVGVPPFAGALTSTFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 121
DB 63 VKDAVGTGISVVGQILGVGVPPFAGALTSTFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 122
QY 122 IEYAKSKALAEQLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHFRN 181
DB 123 IEYAKSKALAEQLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHFRN 182
QY 182 SMPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGGEWGYSSSEDVAEFYHROLKLTQOYT 241
DB 183 SMPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGGEWGYSSSEDVAEFYHROLKLTQOYT 242
QY 242 DHCVNWNVGLNGLRGSTYDAWKFNRRFEMTLTVLDLILVLPFDIIRLYSKGVKTEL 301

Db 243 DHCVNWYVGLNGLRGSTYDAWKFNRRPREMTLTVLDLIVLPFPYDIRLYSGVKTELT 302
QY 302 RDIETDPFSLNTLOEYGPFTFLSIENSIRKPHLFDYLOGIEFHTRLOPGYFGKDSFNYS 361
Db 303 RDIETDPFSLNTLOEYGPFTFLSIENSIRKPHLFDYLOGIEFHTRLOPGYFGKDSFNYS 362
QY 362 GNYVETRSIGSSKTIITSPFYGDKSTPEVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 421
Db 363 GNYVETRSIGSSKTIITSPFYGDKSTPEVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 422
QY 422 TKVDFSOYDDQKNETSTQTYDSKRNNHVSQAQSDIDQLPETTTDEPLEKAYSHQLYAEC 481
Db 423 TKVDFSOYDDQKNETSTQTYDSKRNNHVSQAQSDIDQLPETTTDEPLEKAYSHQLYAEC 482
QY 482 FLMDRRGTIPPTFTWTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGGNLL 541
Db 483 FLMDRRGTIPPTFTWTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGGNLL 542
QY 542 FLKSSNSIAKPKVTLSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNKD 601
Db 543 FLKSSNSIAKPKVTLSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNKD 602
QY 602 DDLTYQTDLATTNSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 603 DDLTYQTDLATTNSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 653

RESULT 45

US-10-232-665-22
; Sequence 22, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 22
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; NAME/KEY: PRT
; LOCATION: (1)..(653)
; OTHER INFORMATION: Cry3Bb1 variant 11231mv2
US-10-232-665-22

Query Match 99.0%; Score 3373; DB 14; Length 653;
Best Local Similarity 99.2%; Pred. No. 2.2e-259;
Matches 646; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 2 NPNRSEHDTIKVTNPSELQTNHNOYPLADNPSTLEELNYKEFLRMWTDSSTEVLIDNST 61
Db 3 NPNRSEHDTIKVTNPSELQTNHNOYPLADNPSTLEELNYKEFLRMWTDSSTEVLIDNST 62
QY 62 VKDAVGTGIVSVGQILGVVGPFPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDKK 121
Db 63 VKDAVGTGIVSVGQILGVVGPFPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDKK 122
QY 122 IEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSAESHFRNS 181
Db 123 IEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSAESHFRNS 182
QY 182 MPSEAVSKFEVLFLPTYAQAANTHLLLLKDAQVFEEMWYSSSEDVAEFVHRQLKLTQOYT 241
Db 183 MPSEAVSKFEVLFLPTYAQAANTHLLLLKDAQVFEEMWYSSSEDVAEFVHRQLKLTQOYT 242
QY 242 DHCVNWYVGLNGLRGSTYDAWKFNRRPREMTLTVLDLIVLPFPYDIRLYSGVKTELT 301

Db 243 DHCVNWYVGLNGLRGSTYDAWKFNRRPREMTLTVLDLIVLPFPYDIRLYSGVKTELT 302
QY 302 RDIETDPFSLNTLOEYGPFTFLSIENSIRKPHLFDYLOGIEFHTRLOPGYFGKDSFNYS 361
Db 303 RDIETDPFSLNTLOEYGPFTFLSIENSIRKPHLFDYLOGIEFHTRLOPGYFGKDSFNYS 362
QY 362 GNYVETRSIGSSKTIITSPFYGDKSTPEVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 421
Db 363 GNYVETRSIGSSKTIITSPFYGDKSTPEVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 422
QY 422 TKVDFSOYDDQKNETSTQTYDSKRNNHVSQAQSDIDQLPETTTDEPLEKAYSHQLYAEC 481
Db 423 TKVDFSOYDDQKNETSTQTYDSKRNNHVSQAQSDIDQLPETTTDEPLEKAYSHQLYAEC 482
QY 482 FLMDRRGTIPPTFTWTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGGNLL 541
Db 483 FLMDRRGTIPPTFTWTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGGNLL 542
QY 542 FLKSSNSIAKPKVTLSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNKD 601
Db 543 FLKSSNSIAKPKVTLSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNKD 602
QY 602 DDLTYQTDLATTNSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 603 DDLTYQTDLATTNSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 653

RESULT 46

US-10-232-665-24
; Sequence 24, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 24
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; NAME/KEY: PRT
; LOCATION: (1)..(653)
; OTHER INFORMATION: Cry3Bb1 variant 11231mv2
US-10-232-665-24

Query Match 99.0%; Score 3373; DB 14; Length 653;
Best Local Similarity 99.2%; Pred. No. 2.2e-259;
Matches 646; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 2 NPNRSEHDTIKVTNPSELQTNHNOYPLADNPSTLEELNYKEFLRMWTDSSTEVLIDNST 61
Db 3 NPNRSEHDTIKVTNPSELQTNHNOYPLADNPSTLEELNYKEFLRMWTDSSTEVLIDNST 62
QY 62 VKDAVGTGIVSVGQILGVVGPFPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDKK 121
Db 63 VKDAVGTGIVSVGQILGVVGPFPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDKK 122
QY 122 IEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSAESHFRNS 181
Db 123 IEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSAESHFRNS 182
QY 182 MPSEAVSKFEVLFLPTYAQAANTHLLLLKDAQVFEEMWYSSSEDVAEFVHRQLKLTQOYT 241
Db 183 MPSEAVSKFEVLFLPTYAQAANTHLLLLKDAQVFEEMWYSSSEDVAEFVHRQLKLTQOYT 242
QY 242 DHCVNWYVGLNGLRGSTYDAWKFNRRPREMTLTVLDLIVLPFPYDIRLYSGVKTELT 301

Db 243 DHCNVNNGVGLRGSTYDAWVKFNFRREMTLTVDLVLVLPFFYDIRLSYSGVKTELT 302
Qy 302 RDIFTDPIFSLNTLOEYGPFTLSIENSIRKPHLFDYLOQIEFTRLOQPGYFGKDSFNYS 361
Db 303 RDIFTDPIFLLTLQKGPFTLSIENSIRKPHLFDYLOQIEFTRLRGPGYFGKDSFNYS 362
Qy 362 GNVETRPSIGSSKTIITSPFYGDKSTPEVKLSFGDGQKVYRTIANTDVAAMPNGKVYLV 421
Db 363 GNVETRPSIGSSKTIITSPFYGDKSTPEVKLSFGDGQKVYRTIANTDVAAMPNGKVYLV 422
Qy 422 TKVDFSQDDQKNETSTQYDSKRNGHVSAQDSIDQLPETTDEPLEKAYSHQLNVAEC 481
Db 423 TKVDFSQDDQKNETSTQYDSKRNGHVSAQDSIDQLPETTDEPLEKAYSHQLNVAEC 482
Qy 482 FLMDRRGTIPFFTWTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNNLL 541
Db 483 FLMDRRGTIPFFTWTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNNLL 542
Qy 542 FLKSSNSIAKFKVTLNSAALLQRYRIRYASTTNLRFLVQNSNNDFLVIYINKTMNKD 601
Db 543 FLKSSNSIAKFKVTLNSAALLQRYRIRYASTTNLRFLVQNSNNDFLVIYINKTMNKD 602
Qy 602 DDLTYQTFDLATNSNMFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 603 DDLTYQTFDLATNSNMFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 653

RESULT 47
US-10-614-076-56
; Sequence 56, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brusseck, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 56
; LENGTH: 651
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin

US-10-614-076-56

Query Match 98.8%; Score 3366.5; DB 15; Length 651;
Best Local Similarity 99.1%; Pred. No. 7.1e-259;
Matches 646; Conservative 2; Mismatches 3; Indels 1; Gaps 1;
Qy 1 MNPNNRSEHDTIKVTPNSELQTNHNYPLADNPSTLEELNYKEFLRMWTESSSTEVLNDS 60
Db 1 MNPNNRSEHDTIKVTPNSELQTNHNYPLADNPSTLEELNYKEFLRMWTESSSTEVLNDS 60
Qy 61 TVKDAVGTGIVSVGQILGVGVFPAGALTSTFYQSFLNTIWPSDADPKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGIVSVGQILGVGVFPAGALTSTFYQSFLNTIWPSE-DPKAFMAQVEVLIDK 119
Qy 121 KIEEYAKSALAELOGLQNNFEDYVNALNSWKKTPILSRSKRSQDRIRELFSAQESHFRN 180
Db 120 KIEEYAKSALAELOGLQNNFEDYVNALNSWKKTPILSRNPHSQGRIRELFSAQESHFRN 179

Qy 181 SMPFSAVSKPEVLFLPTYAAANTHLLLLKDAQVFGBEWGYSSSDVAEFYHROLKLTQQY 240
Db 180 SMPFSAVSKPEVLFLPTYAAANTHLLLLKDAQVFGBEWGYSSSDVAEFYHROLKLTQQY 239
Qy 241 TDHCNVNNGVGLRGSTYDAWVKFNFRREMTLTVDLVLVLPFFYDIRLSYSGVKTELT 300
Db 240 TDHCNVNNGVGLRGSTYDAWVKFNFRREMTLTVDLVLVLPFFYDIRLSYSGVKTELT 299
Qy 301 TRDIFTDPIFSLNTLOEYGPFTLSIENSIRKPHLFDYLOQIEFTRLOQPGYFGKDSFNYS 360
Db 300 TRDIFTDPIFSLNTLOEYGPFTLSIENSIRKPHLFDYLOQIEFTRLOQPGYFGKDSFNYS 359
Qy 361 SGNVETRPSIGSSKTIITSPFYGDKSTPEVKLSFGDGQKVYRTIANTDVAAMPNGKVYLV 420
Db 360 SGNVETRPSIGSSKTIITSPFYGDKSTPEVKLSFGDGQKVYRTIANTDVAAMPNGKVYLV 419
Qy 421 VTKVDFSQDDQKNETSTQYDSKRNGHVSAQDSIDQLPETTDEPLEKAYSHQLNVAE 480
Db 420 VTKVDFSQDDQKNETSTQYDSKRNGHVSAQDSIDQLPETTDEPLEKAYSHQLNVAE 479
Qy 481 CFLMDRRGTIPFFTWTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNNL 540
Db 480 CFLMDRRGTIPFFTWTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNNL 539
Qy 541 LFLKSSNSIAKFKVTLNSAALLQRYRIRYASTTNLRFLVQNSNNDFLVIYINKTMNK 600
Db 540 LFLKSSNSIAKFKVTLNSAALLQRYRIRYASTTNLRFLVQNSNNDFLVIYINKTMNK 599
Qy 601 DDLTYQTFDLATNSNMFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 600 DDLTYQTFDLATNSNMFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 651

RESULT 48
US-10-232-665-10
; Sequence 10, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 10
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: non-naturally
; OTHER INFORMATION: occurring amino acid sequence encoded by SEQ ID NO:9
; NAME/KEY: PRT
; LOCATION: (1)..(653)
; OTHER INFORMATION: amino acid sequence encoded by SEQ ID NO:9
US-10-232-665-10

Query Match 98.8%; Score 3366; DB 14; Length 653;
Best Local Similarity 99.1%; Pred. No. 7.8e-259;
Matches 645; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

Qy 2 NPNNRSEHDTIKVTPNSELQTNHNYPLADNPSTLEELNYKEFLRMWTESSSTEVLNDS 61
Db 3 NPNNRSEHDTIKVTPNSELQTNHNYPLADNPSTLEELNYKEFLRMWTESSSTEVLNDS 62
Qy 62 VKDAVGTGIVSVGQILGVGVFPAGALTSTFYQSFLNTIWPSDADPKAFMAQVEVLIDK 121
Db 63 VKDAVGTGIVSVGQILGVGVFPAGALTSTFYQSFLNTIWPSDADPKAFMAQVEVLIDK 122

QY 122 IEEYAKSALAELQGLONNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSOAESHFRNS 181
DB 123 IEEYAKSALAELQGLONNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSOAESHFRNS 182
QY 182 MPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEWGYSSSEDAEFVHRQLKLTQQYT 241
DB 183 MPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEWGYSSSEDAEFVHRQLKLTQQYT 242
QY 242 DHCNVNMYNGLNGLRGSTYDAWKFNRPFRMTLTVLDLIVLPPFYDRLYSKGVKTELT 301
DB 243 DHCNVNMYNGLNGLRGSTYDAWKFNRPFRMTLTVLDLIVLPPFYDRLYSKGVKTELT 302
QY 302 RDIPTDPIPSLNTLOEYGTFTLSIENSIRKPHLFDYLOGIEPHTLQPGYFGKDSFNYS 361
DB 303 RDIPTDPIPSLNTLOEYGTFTLSIENSIRKPHLFDYLOGIEPHTLQPGYFGKDSFNYS 362
QY 362 GNYVETRPSIGSSKITTSFYDGKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 421
DB 363 GNYVETRPSIGSSKITTSFYDGKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 422
QY 422 TKVDFSQYDDQKNETSTQTYDSKRNNHVSQAQSDIDQLPPETTTDBPLEKAYSHQNLN 481
DB 423 TKVDFSQYDDQKNETSTQTYDSKRNNHVSQAQSDIDQLPPETTTDBPLEKAYSHQNLN 482
QY 482 FLMDRRGCTIPFTTTHRSVDFNTIDAETITQLPVVKAYALSSGASIEGPGFTGGNLL 541
DB 483 FLMDRRGCTIPFTTTHRSVDFNTIDAETITQLPVVKAYALSSGASIEGPGFTGGNLL 542
QY 542 FLKSSNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMND 601
DB 543 FLKSSNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMND 602
QY 602 DDLTYQTDFLATNNSMGFSGDKNELIIGAESFVSNEKIYIDKIFIPVOL 652
DB 603 DDLTYQTDFLATNNSMGFSGDKNELIIGAESFVSNEKIYIDKIFIPVOL 653

RESULT 49

US-10-232-665-18
; Sequence 18, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 18
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; NAME/KEY: PRT
; LOCATION: (1)..(653)
; OTHER INFORMATION: Cry3Bb1 variant 11231mv1
US-10-232-665-18

Query Match 98.8%; Score 3366; DB 14; Length 653;
Best Local Similarity 99.1%; Pred. No. 7.8e-259;
Matches 645; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

QY 2 NPNRSEHDTIKVTNPSELQTNHNQYPLADNPSTLEELNYKEFLRMWTDSSTEVLNDST 61
DB 3 NPNRSEHDTIKVTNPSELQTNHNQYPLADNPSTLEELNYKEFLRMWTDSSTEVLNDST 62
QY 62 VKDAVGTGISVVGQILGVGVPPFAGALTSFYQSFLNTIWPSPADPWKAFMAQVEVLIDKK 121
DB 63 VKDAVGTGISVVGQILGVGVPPFAGALTSFYQSFLNTIWPSPADPWKAFMAQVEVLIDKK 122

QY 122 IEEYAKSALAELQGLONNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSOAESHFRNS 181
DB 123 IEEYAKSALAELQGLONNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSOAESHFRNS 182
QY 182 MPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEWGYSSSEDAEFVHRQLKLTQQYT 241
DB 183 MPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEWGYSSSEDAEFVHRQLKLTQQYT 242
QY 242 DHCNVNMYNGLNGLRGSTYDAWKFNRPFRMTLTVLDLIVLPPFYDRLYSKGVKTELT 301
DB 243 DHCNVNMYNGLNGLRGSTYDAWKFNRPFRMTLTVLDLIVLPPFYDRLYSKGVKTELT 302
QY 302 RDIPTDPIPSLNTLOEYGTFTLSIENSIRKPHLFDYLOGIEPHTLQPGYFGKDSFNYS 361
DB 303 RDIPTDPIPSLNTLOEYGTFTLSIENSIRKPHLFDYLOGIEPHTLQPGYFGKDSFNYS 362
QY 362 GNYVETRPSIGSSKITTSFYDGKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 421
DB 363 GNYVETRPSIGSSKITTSFYDGKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 422
QY 422 TKVDFSQYDDQKNETSTQTYDSKRNNHVSQAQSDIDQLPPETTTDBPLEKAYSHQNLN 481
DB 423 TKVDFSQYDDQKNETSTQTYDSKRNNHVSQAQSDIDQLPPETTTDBPLEKAYSHQNLN 482
QY 482 FLMDRRGCTIPFTTTHRSVDFNTIDAETITQLPVVKAYALSSGASIEGPGFTGGNLL 541
DB 483 FLMDRRGCTIPFTTTHRSVDFNTIDAETITQLPVVKAYALSSGASIEGPGFTGGNLL 542
QY 542 FLKSSNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMND 601
DB 543 FLKSSNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMND 602
QY 602 DDLTYQTDFLATNNSMGFSGDKNELIIGAESFVSNEKIYIDKIFIPVOL 652
DB 603 DDLTYQTDFLATNNSMGFSGDKNELIIGAESFVSNEKIYIDKIFIPVOL 653

RESULT 50

US-10-232-665-20
; Sequence 20, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 20
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; NAME/KEY: PRT
; LOCATION: (1)..(653)
; OTHER INFORMATION: Cry3Bb1 variant 11231mv1
US-10-232-665-20

Query Match 98.8%; Score 3366; DB 14; Length 653;
Best Local Similarity 99.1%; Pred. No. 7.8e-259;
Matches 645; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

QY 2 NPNRSEHDTIKVTNPSELQTNHNQYPLADNPSTLEELNYKEFLRMWTDSSTEVLNDST 61
DB 3 NPNRSEHDTIKVTNPSELQTNHNQYPLADNPSTLEELNYKEFLRMWTDSSTEVLNDST 62
QY 62 VKDAVGTGISVVGQILGVGVPPFAGALTSFYQSFLNTIWPSPADPWKAFMAQVEVLIDKK 121
DB 63 VKDAVGTGISVVGQILGVGVPPFAGALTSFYQSFLNTIWPSPADPWKAFMAQVEVLIDKK 122

Qy	122	IEEYAKS	KALAE	QGLQNN	FEDYV	NALNS	WKTP	PLSL	RSKR	SQDR	IREL	FSQA	ESHFRNS	181
Db	123	IEEYAKS	KALAE	QGLQNN	FEDYV	NALNS	WKTP	PLSL	RSKR	SQDR	IREL	FSQA	ESHFRNS	182
Qy	182	MPSFAY	SKFEV	FLPT	YQA	ANTH	LLLL	KDAQ	VGE	WGY	SS	EDVA	FYHR	QKL
Db	183	MPSFAY	SKFEV	FLPT	YQA	ANTH	LLLL	KDAQ	VGE	WGY	SS	EDVA	FYHR	QKL
Qy	242	DHCNVN	YNGV	GLRG	STY	DAW	KFN	FR	EM	TL	TV	LD	LV	LP
Db	243	DHCNVN	YNGV	GLRG	STY	DAW	KFN	FR	EM	TL	TV	LD	LV	LP
Qy	302	RDIFTD	P	IFSL	NTL	Q	EYGP	TF	LS	EN	SIR	KPH	LD	Y
Db	303	RDIFTD	P	IFSL	NTL	Q	EYGP	TF	LS	EN	SIR	KPH	LD	Y
Qy	362	GNVETR	PS	IG	SS	K	TI	TS	PE	Y	GD	K	ST	EP
Db	363	GNVETR	PS	IG	SS	K	TI	TS	PE	Y	GD	K	ST	EP
Qy	422	TKVDF	SQ	YD	Q	K	NET	S	T	Q	T	Y	D	S
Db	423	TKVDF	SQ	YD	Q	K	NET	S	T	Q	T	Y	D	S
Qy	482	FLMQDR	R	G	T	I	P	P	F	T	T	H	R	S
Db	483	FLMQDR	R	G	T	I	P	P	F	T	T	H	R	S
Qy	542	FLKES	NS	I	A	K	F	K	V	T	L	N	S	A
Db	543	FLKES	NS	I	A	K	F	K	V	T	L	N	S	A
Qy	602	DDLTY	Q	T	F	D	L	A	T	T	N	S	N	G
Db	603	DDLTY	Q	T	F	D	L	A	T	T	N	S	N	G

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 Job time : 149 secs

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